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TRANSCRIPT OF CONFERENCE ON POLLUTION OF INTERSTATE WATERS OF THE BEAR RIVER, UTAH - WYOMING - IDAHO. FIRST SESSION, LOGAN, UTAH, 8 OCTOBER 1958

Public Health Service
Washington, D. C.

8 October 1958

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Public Health Service

CONFERENCE ON POLLUTION OF INTERSTATE WATERS

OF THE

BEAR RIVER

UTAH - WYOMING - IDAHO

First Session
October 8, 1958
9:10 a.m.

Skyroom, Student Union Building
Utah State University, Logan, Utah

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CONFEREES

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Water Supply and Water Pollution Control Program
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Mr. E. C. Garthe, Regional Engineer
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Denver, Colorado

Mr. L. M. Thatcher, Executive Secretary
Utah State Water Pollution Control Board
Salt Lake City, Utah

Mr. Frank E. Long, Member
Wyoming Stream Pollution Control Advisory Council
Wyoming Department of Public Health
Cheyenne, Wyoming

- - - - - - - - - - - - -

OTHER APPEARANCES

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U. S. Bureau of Reclamation

Mr. Philip W. Pack
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Mr. Vanez T. Wilson, Manager
Bear River Migratory Bird Refuge
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State of Idaho

Mr. Howard L. Burkhardt, Public Health Engineer
Idaho Department of Public Health
Boise, Idaho

State of Utah

Mr. Merrill Peterson
Cache Chamber of Commerce
Logan, Utah

Mr. R. H. Cottrell
Amalgamated Sugar Company
Ogden, Utah

Mr. Welby W. Young, President
American Dairy Association of Utah
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Salt Lake City, Utah

Mr. Jay R. Bingham, Executive Director
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Utah State University
Logan, Utah

Dr. A. R. Gaufin, Associate Professor, Zoology
University of Utah
Salt Lake City, Utah

Mr. George Preston
Logan, Utah

MR. STEIN: The Conference is open.

This conference in the matter of pollution of the interstate waters of the Bear River involving the States of Idaho, Utah, and Wyoming, is being held under the provisions of the Federal Water Pollution Control Act, Section 8. Under the terms of that Act, the Surgeon General of the Public Health Service is required to call a conference of this type when requested to do so by a State water pollution control agency.

In response to a request of the Utah Water Pollution Control Board, this conference has been called by the Surgeon General. The purpose of the conference is to bring together State and local water pollution control agencies and the Public Health Service, and other interested parties to review the existing situation, the progress which has been made and to lay a basis for future action by all parties concerned, and to give the States, localities and industries an opportunity to take any remedial action which may be indicated under State and local law.

The conference technique is a rather old one. As a matter of fact it is used by many State agencies informally in the normal conduct of their business in the field of water pollution control. The notion of a conference was proposed by the United States Supreme Court in the famous case of New York and New Jersey involving interstate pollution. The court said as far back as 1921: "We cannot withhold the suggestion, inspired by the consideration of this case, that the grave problem of sewage disposal presented by the large and growing populations living on the shores of New York Bay is one more likely to be wisely solved by cooperative study and by conference and mutual concession on the part of representatives of the States so vitally interested in it than by proceedings in any court however constituted."

This we think is particularly applicable to the relatively complex situation such as we have on the Bear River. Under Section 8 of the Federal Act, the Surgeon General has notified the official State water pollution control agencies of this conference. These agencies are the Utah Water Pollution Control Board, the Idaho Department of Health, and the Wyoming State Department of Public Health.

Under the law this is a conference between these official agencies and the Public Health Service. The official agencies, of course, are privileged to bring whomever they wish to the conference and have them participate in the conference. The conferees have been designated by these official agencies. For Utah the conferee is Mr. Lynn Thatcher, Executive Secretary, Utah Water Pollution Control Board; for Wyoming the conferee is Mr. Frank Long, member, Wyoming Water Pollution Control

Advisory Council, representing the Wyoming State Department of Public Health; for the Public Health Service the conferee is Mr. Edmund Garthe, Regional Engineer of Region VIII with headquarters in Denver, Colorado. My name is Murray Stein from headquarters in Washington, D.C., headquarters for the Public Health Service. Idaho does not have a representative as conferee at the conference.

We have received a letter from Idaho. While inviting Idaho, as Utah and Wyoming were invited, this letter was received from Idaho.

To the Surgeon General, dated September 10, 1958.

"This is to inform you that the State of Idaho will not be officially represented at the Water Pollution Conference called for October 8, 1958, at Logan, Utah.

"We have asked Mr. Howard L. Burkhardt of our engineering staff to attend this conference as an observer."

In response to that, I wrote this letter to Dr. Carver, dated September 18, 1958.

"Dr. Leroy E. Burney" -- that's the Surgeon General -- "has asked us to reply to your letter of September 10, 1958, concerning the conference in the matter of the pollution of the interstate waters of the Bear River called for October 8, 1958, in Logan, Utah.

"We regret that you will not be officially represented at the conference. Mr. Howard L. Burkhardt of your engineering staff who will attend this conference as an observer will be most welcome indeed.

"If you should care to invite appropriate municipal and industrial representatives to the conference, we shall be happy to have them participate and present any relevant material." Signed, sincerely yours, Murray Stein.

Now, we will call on Mr. Burkhardt and any of the other folks who may be here from Idaho and give them a chance to present statements and to participate.

Both the States and Federal Government have responsibilities in dealing with interstate water pollution control problems. The Federal Water Pollution Control Act declares that the States have primary rights and responsibilities for taking action to abate and control interstate pollution. It has always been the policy of the Public Health Service to recognize this traditional role of the States. The function of the Public Health Service is to encourage the States in this activity. However, the Public Health Service is charged by law with specific responsibilities in connection with interstate pollution control problems.

The Federal Water Pollution Control Act provides that pollution of interstate waters which endangers the health or welfare of persons in a State other than that in which the pollution originates is subject to abatement. The conference will be useful in providing a clear record delineating the progress which has already been accomplished, if any has been made, and indicating what still needs to be done in correcting the interstate pollution problem.

Under the Federal Law, the Surgeon General is required at the conclusion of the conference to prepare a summary of the conference which will be sent to all conferees. The summary, according to law, must include the following:

1. Occurrence of pollution of interstate waters subject to abatement under the Federal Act;

2. Adequacy of measures taken toward abatement of pollution; and

3. Nature of delays, if any, being encountered in the abatement of pollution.

It is suggested that the conference discussions be directed toward discussing these points so that we may prepare a serviceable summary at its conclusion. In addition, the law requires the Surgeon General, at the conclusion of a conference, to determine whether effective progress toward abatement of pollution, if such pollution exists, is being made.

To aid the Surgeon General in making this determination, it is strongly suggested that the conferees agree, if appropriate, upon a schedule of remedial action. Such a time schedule, of course, should be a realistic and reasonable one. Once the time schedule is accepted by the conferees, they should point out that it is primarily a function of the States to see that this schedule is adhered to.

Now, of course, the Federal Government will have the responsibility in seeing that this is done; but recognizing the primary rights and responsibilities which belong to the States, the States will have the initial responsibility for moving this work forward.

Now, we are not worried about the procedures governing the conduct of the conference -- Mr. Cecil Tucker is making a stenographic report of these proceedings for the purpose of aiding us in preparing a summary and also providing a record of what is said and done here. We will make copies of the summary and transcript available to the conferees, that is the official State agencies, and this will include the State of Utah. Other people desiring to receive copies of the transcript and the summary should get in touch with their official State water pollution control agency and request such copies.

An agenda has been provided for the conferees. The agenda is to aid us in directing our discussion toward the points required to be covered by law. However, the agenda can be adjusted to meet particular situations as they arise.

All the conferees will be called upon to make statements. The conferees, in addition, may call upon the participants they have invited to the conference to make statements. At the conclusion of such statements, the conferees will be given an opportunity to comment or ask questions, and at the conclusion of the conferees' comments or questions, I may ask a question or so, too. This procedure has proven effective in developing a clear statement of the problem and reaching agreements on equitable solutions.

The conferences we have had have been broken down into two major types. In one type, the work on the river has moved so far along that the conferees are able to establish a timetable for specific remedial action and to conclude the conference in one session. In other cases where work still has to be done by the States, the conferees have decided that this session or an initial session of a conference will be called the first session, and after the States have been given an opportunity to take specific action, a second session is then called when the conferees decide a time schedule for specific remedial action by industries and municipalities concerned, if these are indicated, and that is the conclusion of the conference. It is very difficult to tell what type of a conference this will be. I think this will come out in the discussions that will take place today.

Before we begin the agenda, we should like at this time to call on Mr. Thatcher of Utah to introduce some people from Utah, a Congressional Representative, and members of his Board who are in the audience. - Mr. Thatcher.

MR. THATCHER: Thank you, Mr. Stein. We are very much honored this morning and pleased to have with us our own Representative Dixon. Will you stand, Representative Dixon?

MR. THATCHER: I have been looking for the chairman of the Water Pollution Control Board. Is he hiding back there somewhere where I can't see him? Apparently he didn't come this morning or hasn't arrived. We do have some other members of the Water Pollution Board that should be introduced.

First, Dr. Soffe who is ex officio member because of his official position in the State as director of the Health Department. -- Dr. Soffe.

Mr. Fjeldsted was here. I don't see him now. He is representing the Weber Basin Conservancy Board. There he is. Mr. Fjeldsted.

Professor Borg of the University of Utah, another member of the Board. Professor Borg.

Mr. Mike Romney of the Utah Mining Association. Mr. Romney.

Doctor Sigler of the Utah State University. Dr. Sigler.

We are also very much pleased this morning to have at least one member of the State Board of Health present. Dr. Porter, who is chairman of the State Board of Health.

I don't see any other Board of Health members here. Are there any other members present?

Mr. Erekson of the Utah Water Pollution Board is present. Mr. Erekson.

Mr. Barlow of the Water Pollution Control Board. These two gentlemen sneaked in after I got started. Mr. Barlow.

Mr. Chairman, I believe that completes the introductions.

MR. STEIN: Thank you, Mr. Thatcher.

I would like to make just a few announcements. One, when participants other than the conferees wish to speak in the conference, we would suggest, when they are called upon, they come up to this lectern. You can either use the lectern, or stand, or sit down, as you wish, but we suggest that you do that; and, secondly, for the record, we would like all the participants to identify themselves by name and organization before they begin to speak so this will show up on the record.

Now, this conference very well may go on until the afternoon. As a matter of fact, I think probably it will. We expect to adjourn for lunch between 12 and 12:30. However, I understand we must have a show of hands as to the number of folks who wish to use the cafeteria on the first floor for lunch. Now, I would suggest those who are planning to do that will wish to raise their hands now and the count will be taken.

At this point, we would like to get on with Mr. Garthe's statement. Mr. Garthe will make a statement on Interstate Pollution of the Bear River and Tributaries. Mr. Garthe.

MR. GARTHE: In my three years as Regional Engineer, Region VIII, Denver, I have had several discussions with State officials and members of our staff regarding this problem. This has been my first opportunity to actually visit this beautiful area, however, and I am pleased to be able to do so.

One of our functions is to provide technical assistance to State water pollution control agencies. In general, this must be limited to cases where a special or unique problem is encountered. Mr. Lynn Thatcher has obtained some Public Health Service assistance in studying the Bear River water pollution control problem and has asked for additional help in the past two years.

Mr. Murray Stein has advised us that where an interstate enforcement action is undertaken, and the Public Health Service assumes a responsible role in abatement of interstate water pollution, funds and personnel may be available from Public Health Service sources specially allocated for this purpose. We hope that it will become possible to help the Utah Water Pollution Control Board solve this problem.

I would like to make a brief statement about the national water pollution control problem before we proceed with the situation in the Cache Valley.

It is anticipated that by 1980 the average daily water use in the United States will approach and perhaps equal the average daily supply available. This points up the need for reusing parts of available supply again and again. Some areas of the country where daily water use now exceeds the amount available already are practicing reuse.

Water must be satisfactory in quality as well as adequate in quantity to be usable. Achievement of satisfactory quality for reuse as water flows from city to city, industry to industry, and farm to farm, is possible only through control of pollution, both man made and natural. There is no single cause, and therefore, no single solution for water pollution. Instead, there are numerous problem situations, some regional, some distributed with varying intensity through the nation. As a whole, it constitutes a serious national problem.

Among these important considerations are a backlog of municipal sewage treatment needs amounting to about two billion dollars and industrial waste treatment requirements of approximately the same amount. Much of this backlog accumulated during World War II and the Korean War when construction materials were diverted to war production.

The second situation, population and industrial growth, has been so explosive that construction of sewage and other waste facility works has been falling steadily behind.

The third factor is rapidly changing technology and associated rise in living standards which has resulted in increasingly complex wastes. Although a large population may be affected by such wastes, their physiological effect on man and the techniques for their treatment in many cases are not now known.

Fourth, residual wastes from some treatment works employing the most satisfactory of present known methods may still cause serious problems. This is the result of a trend toward development of huge metropolitan and industrial complexes with their tremendous volumes of wastes. It is imperative that we devise more efficient treatment processes than we now have available. Methods approaching one hundred percent purification will be needed in increasing numbers of situations in the future.

Fifth is the inadequate public awareness of pollution problems and a need for their solution. The benefits from pollution control are not widely understood and the justification for the cost to achieve it frequently is unappreciated. Last year more bond issues to finance sewage treatment were defeated than in any previous year. This is a trend which must be reversed if the health and well-being of the nation is to be protected adequately and present and future economic losses are to be avoided.

Data from a recently completed inventory of sewage and industrial waste facilities in the United States by the Public Health Service show that the amount of municipal sewage reaching our streams has a polluting effect equal to the untreated waste from 75 million people. Including the added industrial pollution, the total burden of waste reaching the national streams is equivalent to the untreated waste of approximately 225 million people.

Other Public Health Service data compiled on the basis of information from the State Water Pollution Control Agencies indicate that municipalities must construct sewage treatment works at a rate of nearly 600 million dollars per year to take care of their needs during the next few years. Estimates for required expenditures for construction of industrial waste treatment works are approximately equal to expenditures needed for municipal waste treatment. The present rate of construction by municipalities is perhaps only half the needed rate, although there is reason for some optimism in the recent trend upward in construction of municipal treatment works and a growing effort on the part of industries.

With that background on the national view of this matter, I would like to call on Mr. Aleck Alexander of our office for a discussion of the Bear River problem. - Mr. Alexander.

MR. STEIN: Before you begin, I would like to call on Mr. Thatcher again who may have another introduction. - Mr. Thatcher.

MR. THATCHER: I see, since we started, Mr. Boyce, who is chairman of the Utah Water Pollution Control Board, has come in. Will you stand please?

MR. STEIN: Very well. - Mr. Alexander.

MR. ALEXANDER: Thank you, Mr. Stein, and Mr. Garthe. It is really very nice of Mr. Garthe to do this favor for me. I seriously, however, do appreciate it. It is always a pleasure to get back to the Cache Valley area. I have been here in the past in my capacity as an employee of the Idaho Department of Public Health, and even if it means missing a world series game, I really enjoy getting back here.

Now, as to the interstate pollution of the Bear River and tributaries, I would like first of all to describe the basin and give you a little introduction to this problem. (1,2)

The Bear River, which is the Western Hemisphere's largest stream which does not reach an ocean, originates high in the Uinta Mountains in Utah. It flows northward into Wyoming, back into Utah about 20 stream miles below Evanston, Wyoming, and again into Wyoming. It then flows west into Idaho where it continues northward for about 50 miles and then turns southward into Utah and empties into the Great Salt Lake near Brigham City, Utah. Although the mouth of the River and its source are both in Utah and only 90 miles apart, the stream is more than 500 miles long.

The Bear River basin, predominantly agricultural, has an area of 7,000 square miles. Principal communities in the basin are Evanston, Wyoming; Montpelier, Soda Springs, and Preston, Idaho; and Logan and Brigham City, Utah. The most populous section of this basin is the Cache Valley in northeastern Utah and adjacent Idaho. Logan, with a 1950 census population of about 17,000, is the largest city in the basin, and the county seat of Cache County, Utah.

The principal industries in the basin are milk products plants and seasonal food processers, such as vegetable canneries and beet sugar refineries. Phosphate ore mining and processing is an important and increasing industry.

Now as to the water uses of the Bear River. The economy of this basin is dependent on the multiple use and the reuse of its water resources. Used water is returned to the stream as municipal sewage, industrial wastes, and irrigation drainage or return waters to be reused again and again. Following is a discussion on the various water uses of the waters of the Bear River system.

Municipal

All municipal water supplies in this basin are obtained from springs, wells, and mountain streams which are above sources of significant pollution. Little or no treatment except chlorination is

provided for these supplies. Until recently, raw water for the Cache Junction, Utah, water supply which serves ninety persons was obtained directly from Cutler Reservoir on the Bear River, below all municipal and industrial waste outlets in the Cache Valley in Idaho and Utah.

Treatment for the Cache Junction supply included softening, filtration, and chlorination. This supply has been abandoned and water is now obtained from a well.

It is not possible to predict if municipalities in the basin will be able to serve their future and expanding water needs by obtaining additional ground water or by increasing their rights on relatively unpolluted surface supplies. The Bear River is a potential municipal water source, however, and when it becomes necessary to use it for municipal supplies in Utah, water quality will have to be protected to meet Utah's Class "A", "B", or "C" standards. These classifications will be discussed later on.

Agricultural Uses

The present principal water use of the Bear River is for irrigation. About 550,000 acres of land are irrigated by the Bear River and its tributaries. About one-half of this irrigated land is in the Cache Valley with the Bear River and a tributary, the Cub River, as the main sources of water. The irrigation water supply of the Cache Valley may be supplemented in the future by the East Cache and Lower Bea projects which the Bureau of Reclamation has investigated.

Industrial Uses

Most of the known industrial water supplies are obtained either from municipalities or comparable private sources. The Franklin County Sugar Co. at Whitney, Idaho, uses a relatively good quality Cub River water for processing, and the Amalgamated Sugar Co. at Lewiston, Utah, uses Cub River water which contains the wastes from the upstream sugar refinery at Whitney for some of its processing needs.(3)

Expansion of industry in this area may require a greater usage and reuse of the basin's water supplies.

Electric Power Uses

The Bear River and tributaries are important sources of hydroelectric power. The Utah Power and Light Co. has five large hydroelectric plants on the Bear River and several municipalities and this company have generating facilities on tributaries. Bear Lake, Soda Springs, Grace, Oneida, and Cutler Reservoirs are all used primarily for power generating storage and head development.

Recreational Uses

Fishing and hunting are the principal recreational uses of the Bear River. Sports fishing is largely confined to the tributaries and upper portion of the river where fisheries are maintained. The lower reaches of the river are not suitable for trout but do support "rough" species. Big game is mainly found and hunted in the mountainous upper reaches of the basin. The Bear River Migratory Bird Refuge, an important 65,000 acre waterfowl refuge which is administered by the U.S. Fish and Wildlife Service, lies at the mouth of the Bear River.

Sources of Waste

Municipal and industrial wastes contribute to the interstate pollution of the Bear River and its tributaries. Five municipalities and 14 industries are involved. Sources of waste and their characteristics are listed in Table 1.

I don't know if we can project this table but should we try, Kaarlo? Since we can't see the projection, I can hurriedly read down this list. Maybe I can summarize it for you better on a chart, which will follow.

Table 1 - Sources of Waste - Interstate Pollution

Bear River(1, 4, 5, 6, 7, 8, 9)

Municipality or Industry	Nature of Wastes	Pop. Equiv. of Waste before Treatment	Treatment	Pop. Equiv. of Effluent
Evanston, Wyo.	Municipal	3800	Primary	2500
Evanston - Union Pacific RR Co. Shops	Not known	--	Not known	--
Preston, Idaho	Municipal	4000	Primary	3000
Preston Knudson Packing Co.	Meat Packing	600	Septic tank; Lagoon	None
Whitney, Idaho Franklin County Sugar Co.	Beet Sugar (Oct.-Dec.)	--	Screen and Lagoon for some wastes	250,000
Franklin, Idaho Calif. Pkg. Co.	Vegetable Packing (July-Sept.)	17,800	Screens	17,800

Municipality or Industry	Nature of Wastes	Pop. Equiv. of Waste before Treatment	Treatment	Pop. Equiv. of Effluent
Lewiston, Utah	Municipal	500	None	500
Lewiston, Utah Amalgamated Sugar Co.	Beet Sugar (Oct.-Dec.)	--	Lagoon	400,000
Lewiston Cache Valley Creamery Co.	Dairy Products	2,400	None	2,400
Richmond, Utah Sego Milk Co.	Dairy Products	--	None	607
Smithfield, Utah Calif. Pkg. Co.	Vegetable Pkg. (July-Sept.)	--	Screen	35,200
Smithfield Rocky Mtn. Dairy Co.	Dairy Products	7,100	None	7,100
Wellsville, Utah	Municipal	500	None	500
Wellsville Calif. Pkg. Co.	Vegetable Pkg. (July-Sept.)	1,050	None	1,050
Wellsville E.A. Miller Packing Co.	Meat Slaughtering	800	None	800
Wellsville L.L. Miller Packing Co.	Meat Slaughtering	340	Primary	340
Wellsville Morning Milk Co.	Dairy Products	830	Primary	630
Logan, Utah	Municipal	22,000	None	22,000
Logan, Utah Mink Breeders Cooperative Assn.	Slaughter House	Not known	Not known	Not known

MR. STEIN: I think this chart should appear in the record at this point even though Mr. Alexander could not read it. I think we will do that for all the charts and tables prepared. They will appear in the record as read.

MR. ALEXANDER: Yes. Thank you.

Most of the industries also discharge raw sewage. Many of the above wastes are discharged to tributaries of the Bear River rather than directly to the Bear. Cannery and beet sugar refinery wastes are discharged only during their operating season. Drainage from the sugar refinery pulp silos continues after refinery operations end.

Raw and inadequately treated municipal sewage from a total population of 3600 is discharged by Paris, Montpelier, and Soda Springs, Idaho. Dairy wastes are discharged from plants in Paris and Thatcher, Idaho. These wastes do not appear at this time to have any interstate pollution effects, so they are not included in our table, or in the summary charts which we will discuss in a few moments.

The Monsanto Chemical Co. of Soda Springs, Idaho, discharges wastes from a phosphorus plant. The Central Farmers Fertilizer Co. is constructing a phosphate ore processing plant in Montpelier, Idaho. It is not known at this time if wastes from the Monsanto Chemical Co. plant have any interstate water pollution effects, nor do we know if the Central Farmers Fertilizer Co. plant will have any interstate effects.

Now, to get to Figure I. I want to apologize for the fact that we have no means or facilities for darkening this room, and I'm not sure if you folks in the back can all see this. Perhaps you can't, so I'll just recite some of the total figures for you off this chart and follow the river downstream.

Coming from Utah into Wyoming, as the river goes by Evanston, Wyoming, which is represented by this dot here as a single municipality, it receives the effluent from a primary sewage treatment plant and this effluent has a population equivalent of 2500 persons. This is the residue or the remains. I will explain this term, population equivalent, in just a moment.

The stream eventually gets into Idaho and just above the Utah border in Idaho the stream receives a three thousand population equivalent of municipal sewage from the Preston sewage treatment plant which again is a primary treatment plant with chlorination. This sketch is for the summer time when it also receives from one industry, a cannery, a population equivalent of 18,000.

Then the stream gets down into Utah where near the border three municipalities contribute a population equivalent of raw sewage of 23,000 persons and eight industries contribute a total population equivalent of 48,000.

FIG. 1 SUMMER
POPULATION EQUIVALENT OF ORGANIC
WASTES TO THE BEAR RIVER SYSTEM NEAR
STATE BOUNDARIES

Reproduced from best available copy.

Now, perhaps I should define for some of you folks who may not be familiar with this terminology, the term "population equivalent". Population equivalent is a unit for comparing or relating one common effect or property of industrial waste with domestic sewage. In this case of population equivalent, we are comparing the oxygen consuming capacity of industrial waste with that of domestic sewage and expressing it in terms of sewage from an equal population. This term compares only the B.O.D. (biochemical oxygen demand) and does not include or imply that other constituents such as bacteria, grease, or detergents are present in the industrial waste the same as they would be in sewage.

Now, I used another term here that some of you may not be familiar with, the biochemical oxygen demand. B.O.D. is an abbreviation for the term biochemical oxygen demand. This is a measure of the amount of organic matter in a waste, such as sugar, protein, or urea, which is decomposed by bacterial action in the waste or the stream. In the process of decomposition of these organic materials, the bacteria consume or use oxygen which is dissolved in the water. The standard B.O.D. test is the amount of oxygen consumed by a waste in five days at 20 degrees centigrade.

Now, if we can have Figure II, please.

In the winter season of October, November, and December, when the sugar refineries are operating, we follow the river up again from Utah into Wyoming and see that we have this one continuous source of sewage plant effluent from Evanston, Wyoming, with a population equivalent of 2500 persons, and then as the stream goes up into Idaho and comes back down again into Utah, just before it reaches Utah again, we have the one municipality of Preston contributing sewage plant effluent with a population equivalent of 3000. At this time of the year we have a sugar refinery in operation in place of the vegetable packing plant which was operating in the summer, and it contributes a population equivalent of 250,000 persons to the tributaries of the Bear River. These wastes aren't necessarily discharged directly into the river as indicated in the sketch.

After the stream crosses the border into Utah, seven industries contribute a total population equivalent of 412,000 persons. This is mainly the result of wastes from the Amalgamated Sugar Company at Lewiston, Utah. We have, as before, three municipalities which contribute a 23,000 population equivalent.

Significant stream damage also is caused by extensive soil erosion from irrigated lands in the vicinity of Preston, Idaho. Most of the eroded soil settles in the stream bed and has caused a rise in the bed level of the Bear River and in some channel changes. In some

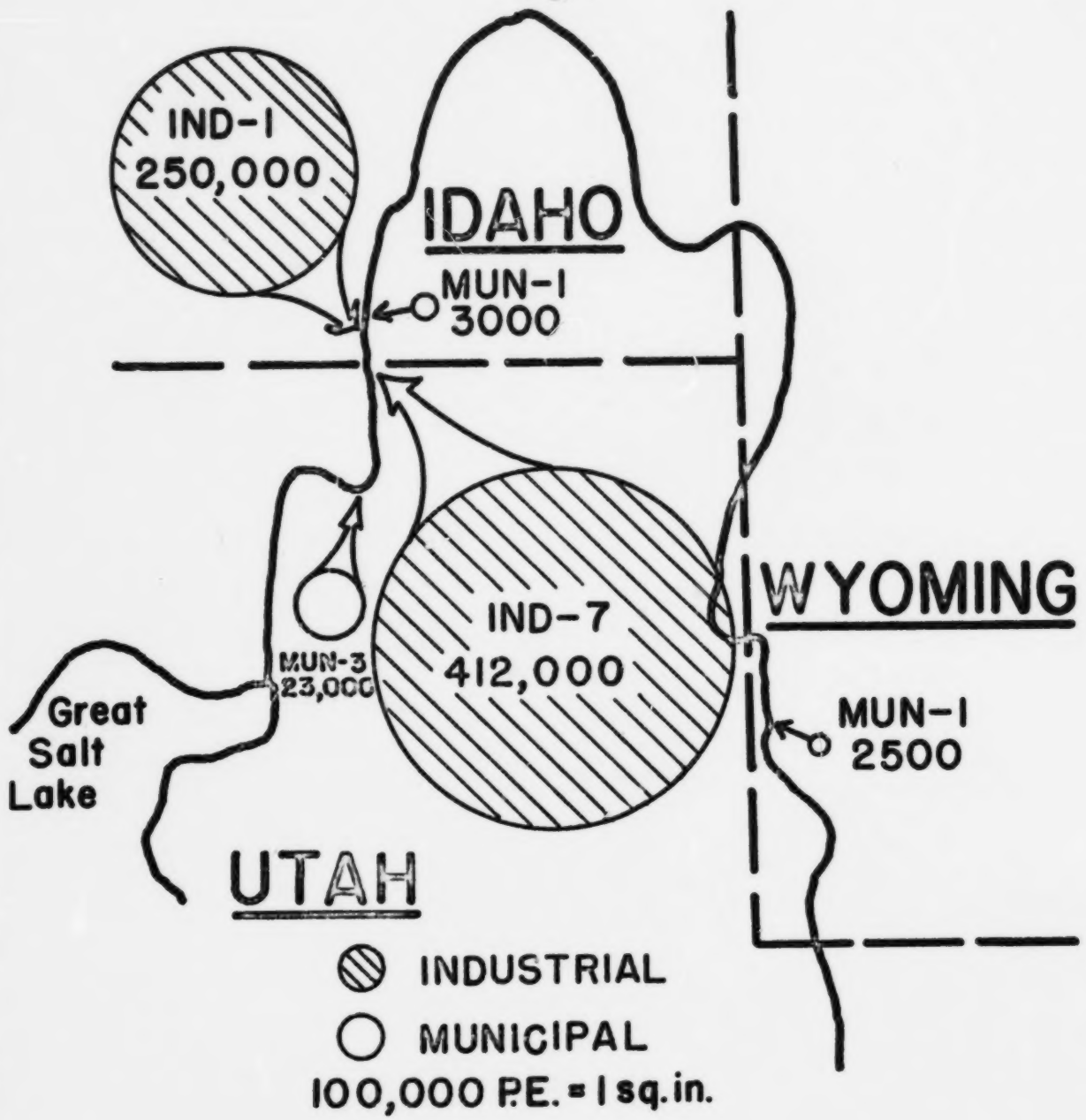

FIG. II WINTER
POPULATION EQUIVALENT OF ORGANIC
WASTES TO THE BEAR RIVER SYSTE NEAR
STATE BOUNDARIES

places this has destroyed the bottom life in the stream, upon which game fish are dependent.(10) Some dredging has been practiced to protect pump stations and other equipment.(2) The property owners, Soil Conservation Service, and others are cooperating in actions to stop and control this erosion.

Stream Flow Characteristics

Stream flows in this basin are controlled or greatly influenced by irrigation diversions and returns, operation of storage reservoirs, and operation of power plants. A discussion of flow data for the two most pertinent areas of the Bear River (a) below Evanston and (b) in the Cache Valley is given below and is indicative of the order of magnitude of minimum flows which may be expected and which could be used in determining any pollution abatement program.

Bear River Below Evanston

U.S. Geological Survey reports on Bear River flow at a gaging station three and one-half miles northwest of Evanston, Wyoming, show that during five months of the years 1953, 1954, and 1955 the monthly mean flows varied from zero to 5.9 cubic feet per second (cfs) with several weeks of flow less than the maximum monthly mean. The low flows and dryness are a result of irrigation diversions immediately below Evanston.

Bear River Near Preston, Idaho (Near Weston, Idaho Prior to 1944)

For a portion of this time the gaging station was at Weston, but I believe that the readings are essentially the same at Weston as they would be at Preston.

A thirty-three-year average flow at this USGS gaging station is 780 cfs. In the Idaho-Utah border area, wastes having the highest population equivalent are discharged during the sugar beet refining season, in the months of October, November, and December. On the basis of flow data for these months for a sixteen-year period, 1938 to 1954, an average of the three lowest flow years for these months is 370 cfs. This is essentially the flow which goes from Idaho down into Utah in the Bear River.

Bear River Near Collinston, Utah (Below Cutler Reservoir)

In the sixteen years' flow data, 1938 to 1954, the years of 1939, 1944, and 1954 had the lowest flows for the months of October, November, and December, corresponding to the lowest flow years of the Bear River near Preston. The average of these flows is 710 cfs.

Cub River at Mouth

Very little data are available on flow of this stream near its mouth. Some measurements were made in conjunction with the 1955 water pollution study and at this time the flows averaged about 56 cfs.(3) It is reasonable to accept this 56 cfs as a minimum during those months.

Worm Creek Near Mouth

Now, we mention Worm Creek because the sugar refinery in Idaho discharges waste in Worm Creek first of all. The only available data on the flow of Worm Creek near its mouth are measurements made during the 1955 water pollution study. On this basis an average flow of 20 cfs can be assumed to be a reasonable minimum during these three months.

Interstate Pollution Problem Areas

Known or potential interstate pollution problem areas exist at two places on the Bear River, as indicated in the following discussion.

One, the Bear River below Evanston, Wyoming. During the very low summer flows in the Bear River below Evanston, Wyoming, there may be an interstate pollution problem because of Evanston's sewage and the Union Pacific Railroad Company's shop wastes which are discharged to the stream. The Evanston sewage treatment plant may be overloaded and the characteristics of the railroad shop wastes are not known at this time.(8) There are insufficient data available at this time to determine the presence or absence of a problem in this area.

Two, Worm Creek, Cub River, and Bear River below Idaho-Utah border.

Worm Creek is grossly polluted by inadequately treated sewage from Preston, Idaho, and beet sugar refinery wastes from the Franklin County Sugar Company at Whitney, Idaho. One mile after it crosses the Utah border, Worm Creek runs into the Cub River, which then becomes severely polluted. Pollution of the Cub River is intensified in Utah by raw sewage from Lewiston and wastes from the Amalgamated Sugar Company at Lewiston. Seven miles below Lewiston the Cub River enters the Bear River causing marked degradation of these waters during the beet sugar refining season.(3) Raw sewage from Logan and sewage from other Utah municipalities and wastes from industries in the area continually degrade the waters of the Bear and Cub Rivers with the principal effect being bacteriological damage.

Short-term studies also show that pollution conditions may exist in the summer during the operating season of the vegetable canneries at Franklin, Idaho, and Smithfield and Wellsville, Utah.

Correction of this problem in Cache Valley cannot be achieved without adequate waste abatement by all of the municipalities and industries in both States.

State Pollution Control Legislation and Water Quality Standards

Utah

The Utah Water Pollution Control Act, Title 73, Chapter 14, Utah Code Annotated, 1953, was enacted in 1953. It created a nine-member Water Pollution Control Board and confers broad powers on the Board to abate water pollution which is declared unlawful. Technical services must be performed by the Department of Health, insofar as possible. The Executive Secretary shall be the Chief Sanitary Engineering Officer of the Department of Health.

To effectuate a program for prevention, control, and abatement of pollution, the Board is authorized to classify waters of the State according to their present most reasonable uses. Standards of quality for each class of water may be adopted. Public hearings must be held before streams are classified.

On November 19, 1954, the Board adopted "The Standards of Water Quality and the Regulations for Water Classification," in which five classes of waters, entitled "A", "B", "C", "D", and "E" are defined according to their chemical, physical, and bacteriological quality and suitable legitimate uses.

Class "A" waters are the highest quality and are suitable at all times for all water uses, including domestic water supplies, without treatment. These waters must meet the USPHS Drinking Water Standards and the U.S. Department of Agriculture Handbook 60, recommended standards for irrigation water.

Class "B" waters are high quality waters which are suitable at all times for all water uses including domestic water supplies which are disinfected only.

Classes "C" and "D" usage and water quality are given in the following table. If you will project Table 2 on the screen, I will read the usages.

Water uses for which Class "C" water is suitable at all times is domestic water with coagulation, sedimentation, filtration, and disinfection. Class "D" water is not suitable for this purpose.

Class "C" waters are generally suitable for general irrigation. Class "D" waters are suited for general irrigation except lawns, recreation areas, dairy cattle pastures, root crops, or low-growing crops for human consumption.

Class "C" is suitable for stock watering, fish and wildlife propagation, recreation except swimming and industrial water supplies. Class "D" is suitable only for industrial water supplies and any other uses which the Board may later decide to designate it for.

Since you can't see the projection, I can very quickly relate some of the characteristics of Class "C" and "D" waters. I would like to point out that Class "C" and "D" waters are the same in many of these quality requirements. The principle differences are in B.O.D. and perhaps some minor ones in other deleterious materials.

Table 2 - Quality of Utah's Class "C" and "D" Waters

	Class "C"	Class "D"
Chemical Characteristics	U.S. Public Health Service Drinking Water Standards	Same as "C"
Chemical Characteristics	Irrigation Water Quality - USDA Handbook 60	Same as "C"
Coliform Organisms	a. 5000/100 ml, monthly arithmetic average. b. More than 80% of samples less than above. c. Less than 5% of samples exceed 20,000/100 ml.	Same as "C"
B.O.D.	a. 5 ppm - monthly arithmetic average. b. 80% or more of samples less than 5 ppm. c. Less than 5% of samples exceed 10 ppm.	a. 25 ppm b. 80% less than 25 ppm c. 5% less than 50 ppm
Solids and Color	No apparent slicks, floating solids, suspended solids, sludge deposits, or color.	Same as "C"
pH	5.0 - 9.0	5.0 - 9.0
Misc.	Toxic wastes, phenols, other deleterious substances, temperature not to make unfit for above uses.	Same as "C"

Chemical characteristics should conform in both of these classes to the USPHS Drinking Water Standards and irrigation water quality, USDA Handbook 60. Coliform bacteria should not exceed a monthly arithmetic average to 5000 organisms per hundred milliliters and no more than 80 percent of the samples should have less than 5000 coliforms per hundred milliliters, and less than five percent of the samples should not have more than 20,000 per hundred milliliters. This coliform standard also pertains to Class "D" waters.

Class "C" waters have a B.O.D. specification of five parts per million (ppm) monthly arithmetic average with 80 percent or more of the samples being less than 5 ppm and less than five percent of the samples exceeding 10 ppm.

Now, over in Class "D" we have a B.O.D. monthly arithmetic average of 25 ppm with 80 percent being less than 25, and five percent being less than 50 ppm.

Now, as to solids and color, both Class "C" and Class "D" standards require that there be no apparent slicks, floating solids, suspended solids, sludges, deposits, or color.

pH should be between five to nine in both of these classes and toxic wastes, phenols, and other deleterious substances, including high temperatures, should not be in high enough concentrations to make these waters unfit for their prescribed uses.

The fifth classification, Class "E" water, shall have no beneficial uses, nor create or result in nuisance conditions. The Board may direct isolation of Class "E" waters by conduit, approved fence, or other means.

Idaho

In Idaho, the five-member Board of Health has authority to establish and enforce minimum sanitary standards for (1) the quality of sewage effluents, (2) the collection, treatment and disposal of sewage, and (3) the construction, extension, operation, and maintenance of sewage collection and treatment works (Idaho Code, Sec. 39-101).

The Board also has authority to abate public health nuisances, but has no authority to control industrial wastes unless public health nuisances are caused. Rules and regulations to govern the disposal of human wastes are being developed at this time.(11)

The State Fish and Game Department has broad authority to control killing of fish by any deleterious substances.

Bear River Compact Commission

This compact was approved this year and the Commission consists of three members each from Idaho, Utah, and Wyoming and one U.S. representative. In addition to other responsibilities, dealing mainly with water quantities and allocations, the Commission is authorized to cooperate with other agencies in interstate water pollution matters.

Water Quality Studies

Several studies have been conducted in the Idaho-Utah border area in the past six years to obtain water quality data for the determination of pollution problems and their solution and for the classification of waters in Utah.

Bacteriological Studies

In 1953, the States of Idaho and Utah conducted joint bacteriological studies of streams in the Idaho-Utah border area. More than 200 stream samples were collected at about fifteen stations in this area and coliform organism numbers were determined. These studies were made during March, June, and September, and consisted of a one-week's series of samples and tests in each of these months.

Utah has made a few coliform determinations in 1951 and 1952. Some of these data are summarized in the report of the 1955 water pollution study.

Sanitary - Biological Survey(10)

In 1954, USPHS personnel conducted a study of the Bear River and some of its tributaries from the Idaho-Utah border area to its mouth. The purpose of this study was to ascertain the effects, especially biological, of the cannery and sugar refinery wastes on the stream. A one-week study was made in August during the operating season of the canneries and another study of one week was made in November when the sugar refineries were in operation. In addition to detailed biological population analyses, temperature, turbidity, pH, alkalinity, and dissolved oxygen were determined.

Water Pollution Study of 1955(3)

From November 7 to December 9, 1955, a joint State-Federal study of water quality and industrial waste characteristics was made in the Idaho-Utah border area to obtain physical, chemical, and bacteriological data which Utah could use in classifying streams and ascertaining waste abatement needs. The study included analyses of 10 samples from each of 14 stations. Some stations were on the Malad River. Stream flows also were determined with the aid of the USGS. Industrial waste

studies also were made at three beet sugar refineries and two dairies. The 1955 study provided data which enables a reasonably complete analysis of the problem during the sugar refining season.

Bear River Below Evanston, Wyoming

Only the results of one bacteriological test made on a sample collected about ten miles below Evanston in 1952 are available.

Results of these studies will be discussed in subsequent portions of this statement.

Water Use Interference

The principal established use of waters of the Bear River and its tributaries in the Cache Valley is for irrigation, including dairy pastures. In addition to the direct diversions from the streams, there is some pumpage in the lower reaches. Immediately below the Preston sewage outfall, Worm Creek is diverted into two Cub River canals which carry irrigation water into Utah as well as Idaho. Small streams carrying raw sewage from Logan are used for irrigation immediately below the Logan sewage outfall. Below Cutler Dam, waters containing all the wastes from Cache Valley are diverted and used on both sides of the river for irrigation in a relatively large acreage in Box Elder County.

The Amalgamated Sugar Co. at Lewiston, Utah, uses Cub River water which contains the Preston, Idaho, sewage effluent and waste from the Franklin County Sugar Co. in Idaho for transferring beets from storage to the plant.(3)

Fish kills have been experienced in the lower Bear River below the two sugar refineries in the Utah-Idaho border area.(2, 10) The most recent kill reported was in November 1953, and was estimated to have caused a loss of ten thousand dollars.

Mortalities of up to ten thousand birds have been reported in the Bear River Migratory Bird Refuge. It has been suggested that polluted water may have contributed to the source of certain waterfowl disease and fatalities.(1) If organic material and bacteria play an important role in this matter, then the large waste load from the Franklin County Sugar Co., and the Amalgamated Sugar Co. take on an added significance. In addition, the waste load from the Utah-Idaho Sugar Co. at Garland, Utah, which discharges into the Malad River, also becomes an important waste source in regard to the pollution of waters in the refuge. In the 1955 study, B.O.D.'s as high as 15 ppm were found in water leaving the Cutler Reservoir and as high as 21.4 ppm in the Bear River below Garland and near the refuge.

Water Quality Degradation

On the basis of these present water uses, it appears that the Bear River and Cub River may require a "C" classification in Utah, and the present water quality of these streams does not meet the standards at this time. The studies reported previously have shown that raw sewage and inadequately treated municipal sewage and industrial wastes are degrading Worm Creek, Cub River, and the Bear River so that water quality is inferior to Utah's Class "C" and Class "D" waters in coliform bacteria, B.O.D., and settleable solids which would cause sludge deposits in the stream.

Figure III summarizes diagramatically the results of the November-December 1955 tests for coliform bacteria. Is that readable in the back at all?

VOICE: No.

MR. ALEXANDER: I'll read some of this stuff to you, then. This chart shows the median coliform count and Utah Class "C" and Class "D" standards together at each station. Now, the Utah Class "C" and Class "D" monthly arithmetic average is 5000 coliform bacteria per hundred milliliters of sample and so this is the same at each place.

If you could see the chart, you could get a comparison of the water quality in terms of coliform bacteria at each of these sampling stations. Going up above the Idaho border on the Bear River we see that the Bear River west of Preston, bacteria-wise, was a relatively good stream. It had a most probable number of coliform, and this is the number of organisms per hundred milliliters, of 93.

Going over to Worm Creek above the Preston sewage treatment plant and Franklin County Sugar Co., this creek had a most probable number of 15,000 which exceeds the Utah standards. The Cub River just above the Utah-Idaho border -- and all of these numbers or results are medians of some 10 analyses -- had a most probable number of 330. Then we come down to the Cub River below the mouth of Worm Creek but above the Amalgamated Sugar Co. where we see the coliform bacteria count was 163,000.

Going below the Amalgamated Sugar Co. on the Cub River, but above Sego Milk Co., we see that the coliform bacteria count had gone up to 230,000 per hundred milliliters. Coming down to the Bear River below the mouth of the Cub and below the Rocky Mountain Dairy, the coliform bacteria count is 6800. This is an increase of approximately 700% from the 93 near the Idaho border.

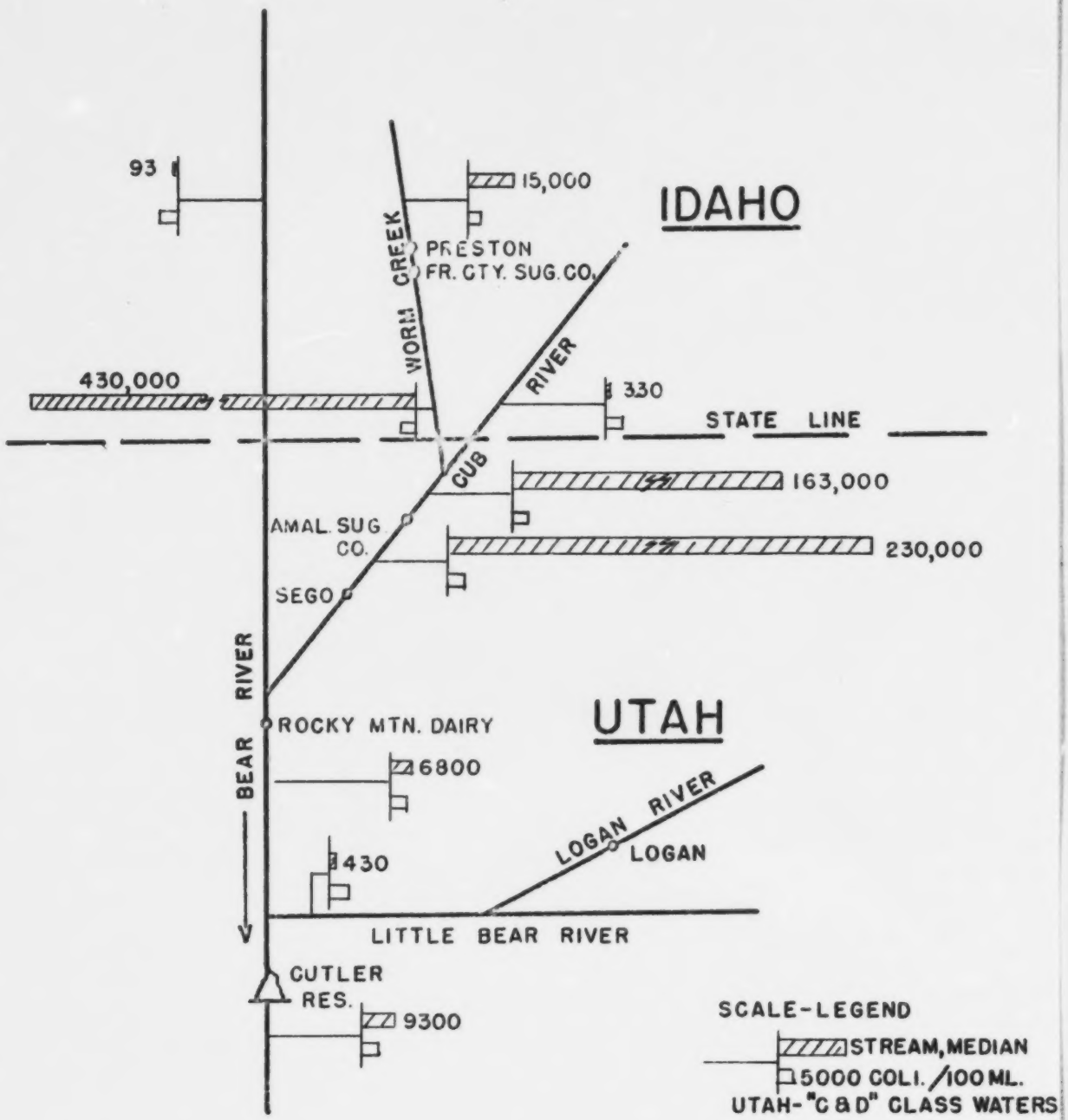

FIG. III

COLIFORM BACTERIA IN STREAM & STANDARDS

LOWER BEAR RIVER-CACHE VALLEY

NOV.-DEC. 1955

Now, if we go below Cutler Reservoir we find a coliform count of 9300 contrasted to the 6800 above Cutler Reservoir, but above the Little Bear River. Now, the Little Bear River near its mouth contains Logan's raw sewage, but only 430 coliforms per 100 ml. This is an unexpected result which at the present time I can't explain, but I'm sure it can be explained with additional tests. Actually, however, I think that if we look at the Bear River result above the mouth of the Little Bear, and then below Cutler Reservoir, we can also get a picture of what the effect of Logan's sewage may be on water quality of the Bear River. There we see an increase from 6800 to 9300 which I think is indicative of the effect of Logan's sewage.

Now, Figure IV is a similar chart showing B.O.D.'s of the stream along with Utah Class "C" standard of five parts per million.

I'll read these average B.O.D.'s hurriedly to you. The Bear River above the State line had a B.O.D. of 1.2 ppm and the Cub River above the State line had a B.O.D. of 0.8 ppm. Worm Creek above the Preston sewage treatment plant and the Franklin County Sugar Co. had a B.O.D. of 2.2 ppm.

Just above the Amalgamated Sugar Co. in Utah, the Cub River, and this is below the mouth of Worm Creek, had a B.O.D. of 162 ppm, and below the Amalgamated Sugar Co. the Cub River had a B.O.D. of 309 ppm. The Bear River below the confluence with the Cub and below the Rocky Mountain Dairy had a B.O.D. of 9.9 ppm. Below the Cutler Reservoir the B.O.D. was 8.9 ppm.

Raw and inadequately treated sewage and the wastes from the two sugar refineries in the area contain settleable solids that will deposit in the streams to form sludge banks. This does not conform with either Class "C" or "D" requirements.

During the 1955 study, mean flows in the Bear River near Preston, and the Bear River below Cutler Dam were higher than the anticipated minimums indicated by the USGS flow records which were quoted earlier. The coliforms and B.O.D. data for 1955 would be nearly double in the Bear River at the minimum flows which were given in the previous discussion and with the same waste loads.

The 1955 study data shows that the Cub River just above the Amalgamated Sugar Co. at Lewiston, Utah, contained no dissolved oxygen on one occasion and at several other times was less than one part per million. The 1954 study also found no dissolved oxygen in a sample taken during the week of November 9th to 12th at this point. The complete absence of dissolved oxygen is indicative of odor nuisance conditions. At this time, however, no reports or complaints regarding odor nuisances are known to have been made.

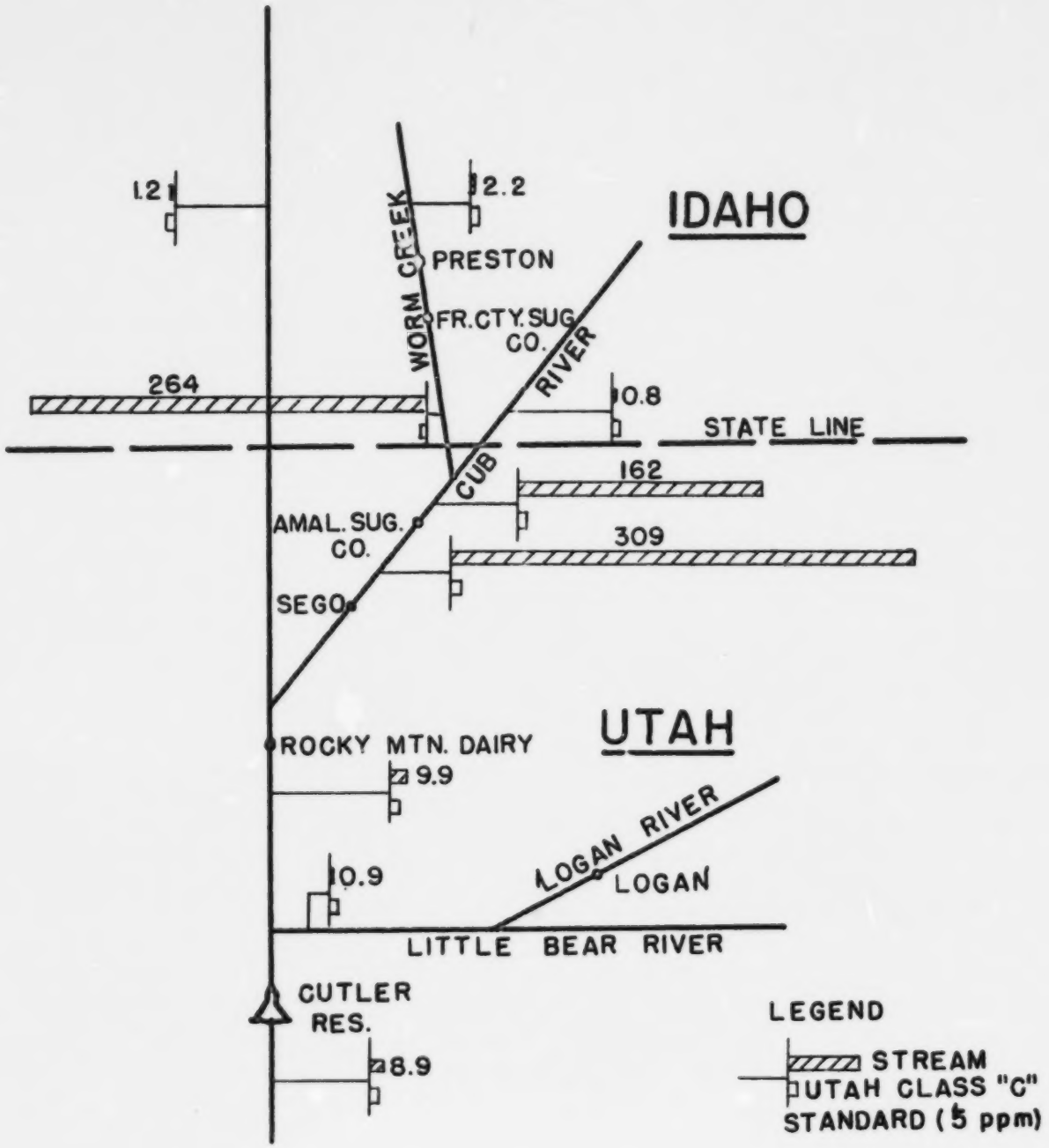

FIG. IV
STREAM BOD & CLASS "C" STANDARD
LOWER BEAR RIVER-CACHE VALLEY
NOV.-DEC. 1955

I would like to point out also, and you may recall, that both the coliform data and the B.O.D. data were not appreciably different on the Bear River above Cutler Reservoir than they were below Cutler Reservoir. This would indicate that Cutler Reservoir had very little purification effect on the stream at the time this study was made, in the winter.

Pollution Abatement Progress

In Idaho, it has been indicated that Preston has engaged a consulting engineer to study their sewage treatment needs and prepare recommendations.

In Utah, Logan has preliminary plans for a secondary sewage treatment plant. On October 8, 1957, exactly a year ago, however, the voters of Logan defeated a one million dollar bond issue for funds to construct sewage treatment works.

Waste Treatment Needs

Personnel of the Utah Water Pollution Control Board have indicated that municipal sewage and other sources of domestic sewage, such as from industries, require secondary treatment and chlorination of the effluent or equivalent treatment in order to maintain Utah's "C" or "D" quality in the receiving streams.

The two beet sugar refineries in the Cache Valley contribute about 97 percent of the B.O.D. load to the streams. About 90 percent B.O.D. reduction by these sugar refineries would be required to maintain a Class "C" quality in the Bear River at Cutler Dam. This reduction in B.O.D. would require substantial waste elimination and treatment measures.

Summary

An interstate pollution problem of the Bear River may exist below Evanston, Wyoming, in the summer when flows of 5 cfs and less occur. This potential problem may involve municipal sewage plant effluent from Evanston and industrial wastes from a Union Pacific Railroad Co. shop. It is believed that this problem could be studied adequately by a short field investigation.

A successful abatement program in the Idaho-Utah border area will require waste abatement in both States of Utah and Idaho.

Interstate pollution of Worm Creek, Cub River, and the Bear River at the Idaho-Utah border causes water quality degradation so as to make these streams unsuitable in Utah for:

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(a) Irrigation, including dairy pasture lands, presenting a potential health hazard,

(b) Fish and wildlife propagation and recreational use, and

(c) Potential use as a domestic water supply.

I would like to repeat that the solution of this problem would require action -- abatement action in both Utah and Idaho. Thank you for your attention.

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5. Inventory of Municipal and Industrial Waste Facilities in Idaho, December 1956, U.S. Public Health Service

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9. Industrial Waste Guide for the Beet Sugar Industry, H. H. Black and G. N. McDermott, Sewage and Industrial Wastes, February 1952

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11. Idaho Health Bulletin, Vol. 1, No. 23, Aug. 20, 1958, Idaho Department of Health

MR. STEIN: Thank you, Mr. Alexander, for a comprehensive statement.

Mr. Thatcher, do you have any questions to ask Mr. Alexander?

MR. THATCHER: No.

MR. STEIN: Mr. Long, do you have any questions you would like to ask Mr. Alexander?

MR. LONG: I don't know if it is in order to ask this question, but why is Idaho not interested in this conference?

MR. STEIN: Idaho has a representative here, and I have read Idaho's letter. We will call on the Idaho representative in a few moments and give him an opportunity to make a statement. I don't think Mr. Alexander can answer your question.

Mr. Garthe, do you have any questions or comments to make on Mr. Alexander's statement?

MR. GARTHE: I do not.

MR. STEIN: That being the case, I suggest that we might wish to recess now for ten minutes, just to stretch and perhaps go out and then come back and continue.

I might say before we do that, that as far as I know, this statement was a very extensive and exhaustive one and it covered the subject very well, I thought. The other statements we will have from now on in will be of a much different nature due to the different aspects of the problem. Thank you, very much.

We stand in recess for ten minutes.

(Whereupon at 10.30 a.m. a short recess was taken.)

MR. STEIN: The conference is reconvened. At this time we will call on Mr. Thatcher for a statement for Utah. - Mr. Thatcher.

MR. THATCHER: Our statement will be very brief and it seeks to present the Board's position in this matter and explain their reason for asking the Surgeon General to call this conference. I will read the statement in the interest of time.

The Utah Water Pollution Control Board has recognized for some time that the Bear River pollution problem is a relatively serious one, particularly from the standpoint of industrial waste load. This and

other problems of equal seriousness were thought to justify early remedial action, and studies conducted or supervised by the Board during the past few years were aimed toward such action.

I might explain that the pollution problem, as you must know already, is State-wide in nature, and the Board can't channel its interests to any individual section of the State to the exclusion of others, and it is for this reason that we have had to direct our studies to pollution problems that we knew existed over all the State.

The one specific study, conducted during 1955, through the cooperation of the U.S. Public Health Service and the U.S. Geological Survey, on which Mr. Alexander has reported already briefly, and as you recall, demonstrated the existence of heavy pollution of the Bear River and some of its tributaries during one season of the year. The study was excluded to that season of the year for practical reasons. The source of this pollution includes industries and municipalities located on both sides of the Utah-Idaho State border. It wasn't excluded to one side.

Desired follow-up on this type of data proved impossible when the Utah Water Pollution Control Board began losing technical staff. This loss has reached such a critical stage during the past two years that the Board has despaired of proceeding with pollution abatement activities for the present; however, it has managed to maintain some control over new sources of pollution, and has continued some stream studies through contracts.

I might explain briefly here that when the Board found that it was unable to proceed in developing the technical staff as it had hoped, it felt that the second best approach to avoid stopping this pollution control work entirely was to contract with private agencies to perform some of the work that a full staff would normally do in the nature of studying the effects of pollution on the streams, and so we have had certain contracts in progress during the past two or three years.

Any abatement action taken in the case of the Bear River and its tributaries probably would have to be preceded by development of additional data relating to chemical, physical, and biological characteristics of the stream water throughout the entire year. Some of this data are now being obtained through the contract studies mentioned. It might be necessary also to supplement the 1955 U.S. Public Health Service study data by additional studies of organic waste loads imposed on the stream at all seasons of the year rather than just the two months included in the study. A rather detailed scientific evaluation of individual industrial waste discharges would be necessary, for the purpose of determining possible reductions in stream loading to be achieved through various treatment processes. Correlation of all such data might then indicate the proper pollution abatement course.

Mr. Alexander, in his presentation, mentioned briefly the Utah law and the stream classification as established by the Board. I might mention briefly here that the pollution abatement course that the Board would follow under normal circumstances would be first to obtain sufficient scientific information through studies to know what we have at present in the way of pollution of the water, then to establish a classification for the stream in question, and following that to proceed with orders for construction of such treatment facilities as would be found necessary to meet the Board's established standard for the classification assignment.

The request for a conference was made by the Utah Board primarily as a result of demands, by individuals and civic organizations in Utah, that early action be taken to abate pollution of the Bear River and its tributaries. The Board reasoned that the conference would make possible the development of necessary additional information which could not be obtained with present resources at its command or available through the regional office of the U.S. Public Health Service.

In spotlighting the interstate aspects of this problem to justify a conference, the Board did not mean to imply that upstream States alone are responsible for the present pollution or that they are lagging behind Utah in control measures. Rather, it was hoped that the conference, by bringing additional resources into the picture, would result in an earlier solution to the over-all problem than would be possible otherwise.

This concludes our statement, Mr. Chairman.

MR. STEIN: Thank you, Mr. Thatcher. Mr. Long, do you have any comments or questions to ask of Mr. Thatcher?

MR. LONG: I don't believe I do at this time.

MR. STEIN: Thank you. Mr. Garthe?

MR. GARTHE: I do not.

MR. STEIN: If not, we will proceed and call on Mr. Frank Long, member of the Wyoming Water Pollution Control Advisory Board, for a statement of how the pollution abatement program is progressing in Wyoming. - Mr. Long.

MR. LONG: Mr. Chairman, and Gentlemen:

I believe that Mr. Alexander has covered mostly what I am going to say on behalf of the State of Wyoming, but I am only covering in my report the situation just here on the Bear River. I couldn't go

into a whole statement on the abatement program in the entire State of Wyoming but, I say this very humbly -- our Council Advisory Board in Wyoming has been very active in the last four years, and we feel that we have the Wyoming pollution problem pretty much under control.

The following statement expresses the opinions and positions of the Wyoming Stream Pollution Control Advisory Council and the Wyoming Department of Public Health concerning pollution of the Bear River within the State of Wyoming, and its possible effects in the adjoining States of Utah and Idaho.

All major sources of water pollution concerning the Bear River in Wyoming are to be found in the vicinity of Evanston, Wyoming. The City of Evanston, having a 1950 population of 3863, is located in Uinta County, approximately 25 miles upstream from the Wyoming-Utah border. The municipality itself discharges treated sewage from their primary sewage treatment plant. This plant, constructed in 1940, serves approximately 60 percent of the total populace of the municipality, treating a maximum flow of 1,200,000 gallons per day.

The treatment plant itself consists of a manually cleaned bar screen with a primary clarifier 50 feet in diameter, six feet average depth, giving a two-hour retention to the sewage. The sludge is discharged to eight beds, 22 x 41 feet, where it is dried and used for fertilizer by local farmers. The effluent itself is of good quality and is discharged to the Bear River at Evanston. Unfortunately, the fluctuation of the flow of this stream in the vicinity of Evanston is great -- ranging from a minimum flow of approximately zero to a maximum flow of approximately 2500 cfs. It is the opinion of both the Council and the Department that under current conditions the sewage effluent does not create more than a minor localized pollution or public health problem.

The other effluent discharges associated with the City of Evanston are found to be caused by the Union Pacific Railroad Co. and the Ellingford Sand and Gravel Co. Both of these firms are actively engaged in abatement programs as set up in a time schedule by the Wyoming Stream Pollution Control Advisory Council and the Wyoming Department of Public Health.

I might add that we have had power to set up a time schedule on towns and industries within the State that other States may not have.

The Union Pacific Railroad Co. previously has discharged wastes from their roundhouse causing some degree of water pollution, particularly indicating an increase in phenols and oils together with a

possibility of sporadic slugs of caustic compounds. It is felt that the company is actively working on a pollution abatement program which calls for abatement of the wastes by the end of the summer of 1958. The proposed program will result in complete retention of all wastes on land.

The Ellingford Sand and Gravel plant has been responsible for the introduction of sporadic heavy silt loads as a result of gravel washing operation; however, inasmuch as the river is often relatively heavily silted from soil erosion, it seems improbable that the gravel washing operation alone is responsible for much aquatic -- I always stumble on that word -- habitat destruction.

Recently the Ellingford plant had started producing large quantities of ready-mixed concrete. Up until early in the summer of 1958, it had been common practice to flush the residue from the mixer trucks into the river upon completion of each day's operations. Laboratory and stream analysis data indicate that the component concentrations had been sufficiently high to pose a serious, although localized threat, to the stream biota during periods of low stream flow.

Early in the summer of 1958, the company was directed to discontinue the practice of washing concrete trucks directly to the stream and to discharge such wastes to land areas. In addition, the company will remove the sand and gravel operation from its present site to another area where all wastes will be retained, thereby ending the problem of the sporadic silt loadings.

It should be noted that the Wyoming Game and Fish Commission maintains an adequate trout fishery between the municipality and the Wyoming-Utah border, and, furthermore, that the major water use downstream from Evanston, and still within Wyoming, is primarily that of irrigation of forage crops; a use that, when coupled with bacteriological die-off and dilution effects, is not felt to comprise a public health problem within the State.

In view of these facts, and in the absence of any data to the contrary, the Wyoming Stream Pollution Control Advisory Council and Department of Public Health feel that municipalities and industries within the State of Wyoming do not materially contribute to any possible degradation of the water quality of the Bear River at any point in the States of Utah or Idaho. However, should further study indicate, or should any change occur in the pollution load contributed by sources in Wyoming materially affecting the stream, the Advisory Council and Department of Public Health will immediately institute a further program to maintain the stream quality within the basic premise that no water in Wyoming shall be so degraded by pollution as to limit the multi-purpose use of this resource by all of the citizens of the State.

MR. STEIN: Thank you, Mr. Long, for a comprehensive statement.

I think there is an indication here that definite progress is being made in connection with the Wyoming sources of pollution, and it is doubtful, it seems, whether there is a serious problem in that area. If there is, it seems to be on its way toward solution.

Mr. Thatcher, do you have any comment or any question?

MR. THATCHER: As Mr. Long read his statement concerning the effect of pollution downstream from Evanston, the thought occurred to me that the Utah Board would want to reserve the right to make a study in that area in view of our lack of information at the present time.

We have no reason, of course, to dispute the statement and we feel, from just a cursory analysis of the situation, that Mr. Long's statement is correct. I assume that the last paragraph of his statement certainly leaves the way open to proceed with such a study.

MR. STEIN: Thank you, Mr. Thatcher. Mr. Garthe, do you have any comment?

MR. GARTHE: I do not.

MR. STEIN: I would like to make an announcement before we go on. If any of the people in the audience have not signed the roster, we would appreciate your doing so.

At this point we would like to call on Mr. Howard L. Burkhardt, Public Health Engineer, of the Idaho Department of Health, to make his statement. Mr. Burkhardt.

MR. BURKHARDT: This is a statement of the Idaho Department of Health in relation to the water pollution conference called by the U. S. Public Health Service.

Idaho has elected not to participate in the Water Pollution Conference called by the U. S. Public Health Service for October 8, 1958, in Logan, Utah, because Idaho is in disagreement with the way this conference was called and with the purpose of the conference.

Idaho is as interested in the control of water pollution as is any other State. It feels that it has had a good working relationship with surrounding States having mutual water pollution problems and that much has been accomplished in a cooperative working agreement with these other States.

Furthermore, Idaho has always expressed a willingness to cooperate fully with the State of Utah in solving mutual water pollution problems. From Idaho's point of view, Utah has apparently not been willing or able to accept this offer of cooperation. Utah has never informed Idaho as to the standards it wished to adopt for the stream or streams under consideration. Because Utah has never adopted such standards, Idaho has been handicapped in pursuing a program of pollution abatement in the Bear River area.

Because Idaho understands the calling of a conference under Public Law 660 as an enforcement procedure, Idaho finds it totally inexplicable that a conference is being called with no standards adopted by the State of Utah. The October 8 conference then cannot be an enforcement conference, nor can it be said to be a legal conference. If it is not an enforcement conference, the question becomes, what is the purpose of calling the conference.

The only answer as Idaho sees it, is to enable the U.S. Public Health Service to make a study of the Bear River watershed so that it will become possible for Utah to establish standards. As indicated earlier, this violates Idaho's concept of Public Law 660. Furthermore, if this is the true purpose of this conference, then the result of the conference would seem to have been predetermined. Idaho feels that it does not need to attend a conference whose outcome is already known.

Stated in another way, Idaho's position is that a problem of pollution of the Bear River should have and could have been cooperatively worked out between the State of Utah and the State of Idaho; and, that the involvement at this time of the U.S. Public Health Service will delay the resolution of this problem.

MR. STEIN: The rule is that no one has to answer the questions, but I think what we would like to do is give the conferees an opportunity to ask them to you, and you can use your option of whether you want to answer them or not.

We will call on Mr. Long.

MR. LONG: I was probably out of order in asking the question earlier as to why Idaho didn't want to take part in this conference, but since I have heard the statement from Mr. Burkhardt, why they just decided they didn't need to. That answers my question at the present time.

MR. STEIN: Mr. Thatcher, do you have any questions or comments you wish to make?

MR. THATCHER: I probably should make a very brief comment here in view of Mr. Burkhardt's reference to lack of cooperation between the two States.

I think the Utah Board has repeatedly stated that they are very desirous of cooperating with Idaho. We have made that statement to Dr. Carver in recent months, and I'm sure they want it understood now that their attitude is one of complete cooperation.

I think there is no point in enlarging on the official statement of the Board because it is my belief that it adequately explains our reason for calling the conference. I think if there are any questions on that statement it might be well to have them explained.

MR. STEIN: Mr. Garthe, do you have any questions or comments?

MR. GARTHE: This would be a good topic for discussion but I don't think it would be appropriate at this time.

MR. STEIN: I have just one question, if you will.

Is this statement, the statement of the Idaho Board of Health that was given to you?

MR. BURKHARDT: Yes, sir.

MR. STEIN: Thank you. I have a comment and if you wish to make any further remarks after it, you may.

I think certain questions were raised here. One, I think the record will show by previous meeting and correspondence that we in the Public Health Service have always found Mr. Thatcher and the Utah group extremely cooperative in dealing with the Bear River problem as well as other pollution control problems, and all problems involved in sanitary engineering. I think in evaluating the public spirit of the various States in the Union, you folks in Utah can indeed be proud of the attitude of Mr. Thatcher and the Utah Health Department and in the Water Pollution Control Board as far as cooperating with the Federal Government and with other States is concerned.

Now, I would also like to indicate what the role of the Federal Government is and what obligations we have. Under the Federal Law, there are several ways a conference can be called. One, the Public Health Service can call one on its own if it believes, on the basis of surveys, studies and reports, that interstate pollution exists. Secondly, we must call a conference on the request of the Governor of any State. Thirdly, we must call a conference if requested by a State water pollution control agency. We have received such a request from Utah, and under the law we were required to call this conference.

The purpose of a conference in that case is first to evaluate the situation and determine if an interstate pollution problem exists, and then secondly, to take steps authorized by law to get the pollution problem corrected, if such an interstate pollution problem exists.

Now, I think at this stage we have heard from all the States. I don't think anyone really has said that an interstate pollution problem does not exist. We have had some pretty clear and definite statements that the pollution problem does exist, and under the law we will take all steps required to see that this problem is corrected.

However, the law, again, is very specific, and I think this reflects what people in this community wish. We are to encourage State agencies by cooperative action to clean up interstate pollution. Now, we don't like to draw a hard and fast line between an enforcement case and a cooperative action. We feel that in this case the first stages of it, is certainly a State-Federal-local cooperative action to try to get this pollution cleaned up. We in the Public Health Service measure our success not by the court cases we bring, but by the court cases we don't have to bring, and the solutions we can get effectuated by State and local action and voluntary action.

Now, if this Federal action means providing technical assistance to State agencies to get this done, why that is our function, and that is what we are supposed to do under the law, and I think in Federal-State relationships that is what the people of this country would prefer, that as far as possible this be done within the mechanism of their own State governments.

Again, I say, this means that the Public Health Service recognizes its obligations and is here to see that if an interstate pollution situation subject to abatement exists, that it will be cleaned up by all the means authorized by law. However, we are certainly in a position where we have full confidence that a cooperative State-Federal program will provide a solution to this problem.

I think Mr. Thatcher's statement and Mr. Alexander's statement indicated that one of the reasons that a solution to the pollution problem had not moved forward in Utah had been the lack of personnel in the State to do the job, and the fact that they had to concentrate on problems in the entire state. If through the aid of the Public Health Service, such aid is requested and accepted by the State, then technical resources can be brought to bear which will permit the development of the conditions under which the State can move. I think that is the kind of function we would like to have folks believe that the Federal Government can undertake and the type of assistance we can provide.

We would like to emphasize, certainly at this stage, the enforcement aspect of the proceeding. Now as far as the legal aspects of the proceeding are concerned, I think that they are also very, very clear in the law. Under Section 8 of the Act, certain things have to be done before others. That is, first, a conference is called and then if

that isn't successful, a public hearing, and if that is not successful, then perhaps court action. Now, as far as the legal proceedings are concerned, this is the initial stage. This is the conference proceeding stage, and let there be no doubt that this, as far as we are concerned, meets all the requirement of law as to the initial stage of Section 8 of the Act.

That is about all I have to say. Do you want to comment, Mr. Burkhardt?

MR. BURKHARDT: If I may.

MR. STEIN: You may.

MR. BURKHARDT: I'm sure that this comment from the Board does not intend to infer the personalities of non-cooperation. No personalities were involved, and I do wish to emphasize that we are interested in the control of pollution in the Bear River as well as any other stream in the State.

MR. STEIN: Thank you Mr. Burkhardt.

Now, we would like to, if we may, call upon the other Federal agencies or interstate agencies if they are here. I think Mr. Pack of the Logan office of the Bureau of Reclamation would like to make a statement. Mr. Pack, will you step forward, please?

MR. PACK: Mr. Chairman, Gentlemen.

My name is Philip W. Pack and I represent the Bureau of Reclamation in this area.

The primary consideration of the Bureau of Reclamation is to construct both single and multiple-purpose water development projects which investigations show are feasible from both an engineering and economic standpoint. The area of responsibility in the Logan office includes, in general, the Bear River drainage. The projects we have investigated are isolated and are not continuous along Bear River. Within this particular valley (Cache Valley), the Bureau has investigated and constructed three single-purpose irrigation developments; the Hyrum and Newton Projects, in Utah, and the Preston Branch Project, in the area northeast of Preston, Idaho. All of these projects are located on streams tributary to Bear River.

Other investigations which have been conducted by the Logan office include the Little Bear Project, located in the south end of Cache Valley; the East Cache Project, located east of Bear River between Smithfield, Utah, and Franklin, Idaho; and the West Gem Project in the vicinity of Grace, Idaho.

Currently we are investigating the feasibility of two additional projects. One is the Woodruff-Cokeville Project which is a single-purpose irrigation development located on the main stem of the Bear River above Bear Lake. This project would irrigate certain lands located adjacent to Bear River from Woodruff, Utah on the south to Cokeville, Wyoming on the north. The total length of the area is some 40 miles.

The other project, and one of considerable interest to this area in Cache Valley, is the Bear River Project. This project could irrigate lands located on both the east and west sides of Bear River in northern and central Cache Valley and also in Malad Valley. In addition to irrigation, this project would include a power development; it would provide water for municipal and industrial development; it would provide a dependable late season water supply for the Bear River Migratory Bird Refuge, located west of Brigham City, and would help to eliminate flood damage occurring in low-lying lands along Bear River from the vicinity of Preston, Idaho to Cutler Dam.

The Bureau of Reclamation is not directly involved with the broad over-all public health aspects of the Bear River. However, we are concerned with the public health aspects and problems of the area included within a potential Bureau of Reclamation development. The Bureau of Reclamation has had, for several years, cooperative agreements with the Public Health Service and we recognize the desirability and importance of controlling pollution. A representative of the Public Health Service is stationed in the regional office of the Bureau of Reclamation, in Salt Lake City.

Among other things, it is his responsibility to review, investigate, and make a written report as to the effect a potential Bureau development will have on public health. If the construction of a project will create public health problems, his report contains a discussion of the problem as well as recommendations for the abatement of the problem. Every attempt is made by the Bureau to alleviate the problem within his recommendations.

The Bureau of Reclamation is happy to cooperate with the Public Health Service within its authority.

Mr. STEIN: Thank you very much. Do you also represent the Interstate Commission on Bear River?

MR. PACK: No.

MR. STEIN: Any questions?

MR. THATCHER: No.

MR. LONG: No.

MR. GARTHE: No.

MR. STEIN: Are there any other representatives of Federal agencies here who wish to state something now? We will also entertain remarks from anyone from the Bear River Migratory Bird Refuge. Are there any?

MR. WILSON: I would like to make a brief statement.

MR. STEIN: Will you come up, please?

MR. WILSON: Mr. Chairman, and gentlemen of this conference: I am not officially representing the Fish and Wildlife Service.

First I should have stated my name. I am V. T. Wilson, manager of the Bear River Migratory Bird Refuge and an employee of the Fish and Wildlife Service.

I would just like to make a general statement that our Service is very much interested in this stream pollution problem. The Federal Government, through the Fish and Wildlife Service, has spent considerable sums of money developing a Federal refuge at the mouth of Bear River. As most of you gentlemen know, in years past we have lost hundreds of thousands of ducks and geese which I'm sure the State agencies are interested in protecting and propagating. The sportsmen of the nation are interested in this problem. So, anything we can do to lend our moral support to this matter of stream pollution control we will be more than happy to do so.

The Federal Government, I might state, is spending considerable money carrying on investigations at the present time as to the cause of the loss of bird life which is known as botulism poisoning. It seems that we are working at cross purposes if we don't do something to clean up the source of contamination or conditions which cause this loss of bird life. Therefore, anything that we or the branch of the service can do, I am sure, they will be more than happy to do.

MR. STEIN: Thank you, Mr. Wilson. Any comments or questions?

MR. LONG: Did the gentleman say that they have found out what is killing the ducks and geese?

MR. WILSON: Yes, I think we can say that we know the cause for the loss of bird life. That is the heavy losses are caused from botulism poisoning or food poisoning. Now, we are still working, at research laboratories at the Refuge, where we are carrying on investigation as to the cause and what can be done to remedy these conditions.

MR. LONG: You do feel if this pollution in the Bear River would be cleared up, you would eliminate a great deal of this food poisoning for the birds.

MR. WILSON: We feel that it would go a long ways to clearing up this condition if the stream is cleaned up; yes, sir.

MR. LONG: Thank you, sir.

MR. GARTHE: I would like to ask one question. Do you have any legal authority in your agency to actually control stream pollution?

MR. WILSON: Well, sir, I couldn't answer that.

MR. GARTHE: I was going to say without a lot of research.

MR. WILSON: I don't know of any. I think that is left to the States as far as the Fish and Wildlife element is concerned.

MR. STEIN: Thank you, Mr. Wilson

We can move on now and call upon Mr. Thatcher who will call upon the participants from the State of Utah. - Mr. Thatcher.

MR. THATCHER: Before I start calling on these agencies, I might mention that the Water Pollution Control Board, when the conference was called, worked up a list of agencies and individuals that they felt had an interest in this matter, and sent them invitations to be present today and to make short statements if they should desire to do so. We feel that possibly some of the agencies which received invitations would not want to send representatives and so they will not be represented today. Nevertheless we do want to call on every one on our list, for the record. Now, a statement is not essential. If any of the people present who are called on do not desire to make a statement, we would simply appreciate an indication of that fact.

There is no particular order to this list that I have here. I didn't feel that it was important to try to arrange it in any special way, so I'll just go right down the list. We start out with municipalities in Cache Valley. As I give the names of the municipalities, I would appreciate it if whoever might be here representing that municipality will stand and indicate whether or not they wish to make a statement. The first municipality is Lewiston.

Is there anyone here from Lewiston, today?

(No response.)

MR. THATCHER: Apparently not. Newton?

(No response.)

MR. THATCHER: Apparently not. Trenton?

(No response.)

MR. THATCHER: Logan?

MR. WINGET: No statement.

MR. STEIN: Would you care to identify yourself for the record?

MR. WINGET: My name is Newel Winget, Commissioner.

MR. THATCHER: North Logan?

(No response.)

MR. THATCHER: No one present from North Logan. Millville?

(No response.)

MR. THATCHER: Garland?

(No response.)

MR. THATCHER: Corrine?

(No response.)

MR. THATCHER: Fielding?

(No response.)

MR. THATCHER: I said communities in Cache Valley. I should have included Box Elder County also. Clarkston?

(No response.)

MR. THATCHER: Richmond?

MR. MERRILL PETERSON: Could I make a statement? I apologize for the interruption here, but I have a request here from the Mayors' group of Cache County, whose statement is to be made jointly with our Chamber of Commerce on this later. It was passed on unanimously by the mayors of the towns in Cache Valley. That is why you have no representation from a lot of the towns.

MR. THATCHER: Well, in other words, later on when we call on you for a statement, you will be speaking for the Mayors' organization?

MR. PETERSON: That's right.

MR. THATCHER: Thank you for that information. I see Mayor Plant of Richmond is here. Would you care to make a statement?

MR. PLANT: I was going to comment on the same thing Mr. Peterson did, that at the Saturday's meeting of the Mayors organization, which consists of 19 in this valley, I happen to be the president, we took this policy which Mr. Peterson has spoken of. Other than that, I have no comment.

MR. THATCHER: Thank you very much, Mayor Plant.

I'll continue to read these city names hurriedly, just in case there might be someone here who would care to make a statement in addition to the later statement which will be presented.

Smithfield?

(No response.)

MR. THATCHER: Wellsville?

(No response.)

MR. THATCHER: Mendon?

(No response.)

MR. THATCHER: Nibley?

(No response.)

MR. THATCHER: Tremonton? I assume that the Cache Valley Mayors organization will not include Box Elder.

MR. PETERSON: We do extend into Box Elder County. We have a lot of requests from civic clubs and towns in Box Elder.

MR. THATCHER: Deweyville?

(No response.)

MR. THATCHER: Elwood?

(No response.)

MR. THATCHER: Cornish?

(No response.)

MR. THATCHER: Amalga?

(No response.)

MR. THATCHER: Hyde Park?

(No response.)

MR. THATCHER: Hyrum?

(No response.)

MR. THATCHER: Providence?

(No response.)

MR. THATCHER: Paradise?

(No response.)

MR. THATCHER: Bear River City?

(No response.)

MR. THATCHER: Now, next on the list we have some of the industries that were involved specifically in the studies made here, so first of all I would like to ask for a representative of the Utah-Idaho Sugar Co. I believe they did have a representative here; Robert S. Gaddie, representing the Utah-Idaho Sugar Co., and he has no statement.

Amalgamated Sugar Co.?

MR. COTTRELL: I would like to make a statement, Mr. Chairman. Shall I come up there?

MR. STEIN: Yes, if you will.

MR. COTTRELL: My name is R. H. Cottrell. I represent the Amalgamated Sugar Co. I would like to comment very briefly on some of the testimony offered by Mr. Alexander.

Mr. Alexander recommended that the effluent from the Lewiston sugar factory be cleaned up to the extent of 90 percent and that the stream be classified as Class "C". My position is that such a recommendation is totally unrealistic.

To demonstrate my point further, I have here a report by the Public Health Service which shows that the effluent from the Lewiston sugar factory in 1955 was equivalent to a population of 339,000 people.

At that time the factory was slicing less than 1600 tons per day. At the present time it is slicing in excess of 1800 tons per day, so we must assume that the equivalent in population is somewhere between 350,000 and 400,000.

Now, that is equivalent to a city more than six times the size of Ogden, and if we were required to treat that effluent, we would have to establish a treating plant equivalent to one which could handle that size city. I contend that many cities of that size would have difficulty in financing such a project, and particularly in our case when we operate less than 50 days per year. It is a relatively small plant. It is a marginal operation and to impose on us such a cost would merely result in our closing the plant. I don't say that in any threatening way. I state it as a fact. This factory, even though it is small and operates less than 50 days a year, circulates in this valley from a million and a quarter to a million and three quarter dollars per year, in this community. And, I repeat that if a classification of "C" is adopted by the Board, or if there is any enforcement of cleaning up the pollution to the extent of 90 percent as recommended by Mr. Alexander, it could result in closing the plant.

Now, we are willing to go along with the Board in any amelioration of the condition that is practical and sound, but to clean up to that extent is simply impractical.

MR. STEIN: Thank you, sir. Would you wish to wait just a moment?

Do you have any comment, Mr. Long?

MR. LONG: No.

MR. STEIN: Mr. Thatcher?

MR. THATCHER: No.

MR. STEIN: Mr. Garthe?

MR. GARTHE: No.

MR. STEIN: I just have one comment. As I recall Mr. Alexander's statement, I don't think he made a recommendation, and I have just checked his written statement. I think what he did say was to make a scientific observation that if Class "C" standard as presently promulgated by Utah was to be met, it would require a 90 percent reduction.

I want to make it very clear that at the present time, certainly, the conferees have made no recommendations as to what is to be done. I think, initially, the present information is, unless the conferees

wish to change it during this meeting, that the State of Utah should make the recommendations and set the requirements rather than have us do that, or at least we should give Utah a reasonable time to come up with such recommendations. I don't think any recommendation has been made here, and without any much stronger presentation, none will be made at this meeting.

MR. COTTRELL: I see. Mr. Alexander, I would like to make just one more correction. We do not use Cub River water in the process. We use High Creek and spring water. I'm afraid that knowing the contamination in that stream that some of you might feel that it might get into the sugar, but it does not.

MR. STEIN: Thank you, sir. Mr. Thatcher?

MR. THATCHER: The next industry on my list is the Sego Milk Co. of Richmond. Does the Sego Milk Co. have a representative here this morning?

(No response.)

MR. THATCHER: Apparently not. California Packing Co. of Smithfield. Are they represented?

MR. LAUGHLIN: There is no direct representation from Smithfield. I am R. E. Laughlin from the division office in Ogden. No statement or comment at this time.

MR. THATCHER: We have also on our list, Cache Valley Creamery at Lewiston. However, the letter that we sent to that organization was returned. I don't know whether we had it addressed incorrectly or not. I wonder if there is a Cache Valley Creamery or some similar organization.

MR. PRESTON: It should be Cache Valley Dairy. That is probably why it went astray. They don't admit that they are a creamery.

MR. THATCHER: Is Cache Valley Dairy represented this morning?

MR. PRESTON: If you had addressed it to the largest cheese factory in the world, they would have gotten it.

MR. STEIN: May we have your name?

MR. PRESTON: My name is George Preston. I'm just talking off the cuff.

MR. THATCHER: Hunt Foods of Tremonton. Are they represented?

MR. GARBE: There is no representative of Hunt Foods. I was sent here to make notes.

MR. STEIN: May we have your name?

MR. GARBE: Frank Garbe, Intermountain Superintendent.

MR. THATCHER: No statement was desired?

MR. GARBE: No, sir.

MR. THATCHER: Rocky Mountain Dairy Products Co., Smithfield. Are they represented?

MR. PETERSON: I think we do have here representatives of certain associations involving a number of industries. Perhaps later on they will have statements that will include the interests of these others who are not present.

MR. THATCHER: We also have on our list, Mr. Lynn Erickson of Smithfield. I think that was tied in with some industrial operation. I don't recall which one. Is Mr. Lynn Erickson represented by anyone in the fish culture business?

MR. STEIN: Is he here?

MR. THATCHER: Along that same line we have the White Trout Farm of Paradise. Is White Trout Farm represented?

MR. WHITE: My name is James E. White. I have, at this time, no comment to make.

MR. THATCHER: Thank you, Mr. White. I see Mr. Welby Young who is President of the American Dairy Association. Mr. Young, do you have a statement to make? I might say if you do have a statement and it is very lengthy, it may be better to defer it until after lunch.

MR. YOUNG: I didn't have any intention of making any contribution to this session, but I would like to make a statement, if I may. It will be short so we can get out in time for lunch.

MR. THATCHER: Very well. Come forward, please.

MR. YOUNG: As Mr. Thatcher said, I am Welby Young, President of the American Dairy Association of Utah. I came here to learn and not make any particular testimony in relation to this Bear River

problem, but I do want it to be said for the record that the dairymen everywhere, not only of Utah, but everywhere, are concerned with this water pollution problem. We are on the horns of a dilemma. We are subject to the problem of having approved water sources in order to qualify as grade "A" producers for selling our product, and on that hand we potentially have a stake in keeping approved water sources.

On the other hand, we are potential contaminators of these streams and the problem of disposing of our wastes is very important, so we want to be very close in following the standard and the problem, and from that relationship. The testimony already suggested by Mr. Alexander indicates we have two processing plants involved. We also have a problem of water being used for pasture as a dairy problem; so we have a very intense interest in this thing, but nothing to add particularly to this discussion.

MR. THATCHER: Thank you, Mr. Young. Is the Utah Farmers Union represented? Utah Farmers Union.

MR. PETERSON: I also have a request from them.

MR. THATCHER: We'll have that presented later. Utah Fish and Game Department? I believe we do have some of their representatives here. Is someone designated as spokesman for that group?

MR. REGENTHAL: The Department of Fish and Game, having suffered some fish loss as a direct result of the pollution of the Bear River stream and having this pollution as a constant threat to fishery stock now existing, is interested in having the pollution cleared up. We feel that the technical information that is necessary to accomplish these ends be gathered more quickly through the cooperation of the Public Health Service.

MR. THATCHER: Thank you.

MR. STEIN: May we have your name?

MR. REGENTHAL: Albert F. Regenthal of the Fish and Game Department.

MR. STEIN: At this point we would like to recess for lunch. We will reconvene in one hour. That will make it a quarter to one.

(Whereupon at 11:45 a.m. recess for lunch was taken.)

MR. STEIN: The conference is reconvened. At this time we will again call on Mr. Thatcher to call on participants from the State of Utah. Mr. Thatcher?

MR. THATCHER: Thank you very much. There are one or two Utah Water Pollution Control Board members that will have to leave, so I'm going to pick them out for statements first of all. The Utah Mining Association. I believe Mr. Romney?

MR. ROMNEY: Mr. Thatcher, we have no statement at this time except to commend the conference for the valuable information that has been brought out. Thank you, Mr. Thatcher.

MR. THATCHER: Professor Borg is here representing the University of Utah. Do you have a statement from the University?

MR. BORG: No statement from the University.

MR. THATCHER: Now, before I go on, are there others here representing any industries or agencies who may have to leave in the next few minutes and who would like to make a statement at this time? If I don't get any such indication, I will continue on down the list here.

(No response.)

MR. THATCHER: Let's go next then to Utah State University. I don't know at this moment who was designated to make a statement for the University. Is there someone here from that group? Apparently they are not back from lunch yet.

I would like then to ask, at this time, Mr. Bingham to make whatever statement he cares to make. He is, as I understand it, representing the Governor and also the Utah Water and Power Board and possibly some other agencies too. Mr. Bingham, would you care to take the floor now?

MR. BINGHAM: For the purpose of the record, my name is Jay Bingham. I have, rather than a statement, what I regard as a few comments which I think will be pertinent.

First of all, I would like to point out that we have in attendance at the session today, two members of the Water and Power Board who are here by assignment from the Board and who are particularly concerned with the problem of the Bear River, Mr. Orville Lee and Mr. Orson Christensen.

The Board's fundamental interest, of course, is in doing whatever is possible to achieve the most complete and beneficial utilization of the waters of the State. We have great confidence in the Utah Water Pollution Control Board and its members. We hope that we can cooperate.

We do have, so far as this particular problem is concerned, one observation we would like to cite that as far as the State of Utah is concerned, Bear River represents one of the paradoxes of our area where we have a great volume of water, for the most part going unused into the Great Salt Lake. The River traverses a rich area that has some industrial potentialities, an area long developed, yet we find through the years records where we have not achieved the best utilization of this water resource.

The Board is interested in working not only with the pollution problem but with the Bureau of Reclamation and other interests in achieving this development, and it has in the past felt that the complete utilization would require storage at the point near the mouth of the River. This would offer a water source for future industrial use and I'm sure you see immediately the problem of pollution on the Bear River if we are to achieve some utilization on the last end or salvage operation in the development of this stream.

So, in the multiple purpose concept, the Board has felt that in the best interest of the State and in complete utilization of this water, it is inevitable that water quality be reckoned with. I'm sure the Board stands ready to assist in any way in achieving some planned corrective measures that can be undertaken with a cooperative attitude with complete information and that will not create any serious impact on existing industry.

The Directors of the Board have been charged with the responsibility of representing the State on the Bear River Commission. This interstate agency, which was referred to this morning, has been approved by the three States and by the Federal Government. It has been charged with the responsibility of cooperating in this problem of pollution control and represents an established interstate agency. It is worthy to note that some very difficult problems were faced in writing this compact which outlines the future development needs of the River. I think the same people, the same States, in a general way will find that an answer can be found to the pollution problem the same as has been solved in part by the compact in establishing the consumptive uses of the water.

I'm sure that this group would like to be assured that the Governor regards the development of the State and its resources as one of the great problems and opportunities we face and that the meeting of the minds here, the bringing out into the open for further discussion and study the problems and pertinent facts concerning this system, will lead us in the direction that you would have his full cooperation and blessing in endeavors in that regard.

So in summary, I can assure you that the Water and Power Board stands ready to cooperate in any way to achieve what is its principal charge, the best utilization of the waters of this River. I think it is a fine thing that we start to define this problem and look to ultimate solutions and those that can be accomplished without impact upon established industry. Thank you.

MR. THATCHER: Thank you, Mr. Bingham.

It is appropriate now to call on Mr. Mayo who is here representing the State Engineer's office. Mr. Francis T. Mayo.

MR. MAYO: My name is Francis Mayo. I am Chief of the Water Resource Branch of the Utah State Engineer's office.

Our office is responsible for the orderly appropriation, adjudication, and distribution of the water supplies of the State of Utah. We are responsible also for the conducting of investigations with regard to water resources as to availability of supplies and as to the quality of those waters and, in this regard, we are, of course, interested in the pollution problems of the Bear River and other streams of the State insofar as pollution may have some bearing on the ultimate usefulness of these water supplies.

We feel conscious of the fact that all of us need to strive to achieve the most beneficial use of what waters we have available. In addition, we are concerned with the possible influence of pollution, pollution control or the lack of pollution control, with regard to the distribution of the waters of the State to individuals who have acquired water rights of long standing. We are concerned with the possibility of curtailment of water use by the Pollution Control Board because lack of proper pollution remedies may modify or substantially affect the use to which that water has been put in the past.

We would like to extend to this conference our very sincere interest in these proceedings, our desire to be considered in any future activities that the conference is going to conduct, and also to offer what cooperation we can either through our own facilities or through our cooperative efforts with the U.S. Geological Survey.

MR. THATCHER: Thank you, Mr. Mayo.

I would like to mention at this time that Mr. Gerald Irvine was here this morning, representing the Utah Power and Light Co. He didn't get a chance to speak, and he told me at noon that he had to leave, but he was willing to have us state for the record that Utah Power and Light Co. had no statement to make.

Has anyone come in yet who represents Utah State University?

(No response.)

MR. THATCHER: We will defer that information for a while. Now, do we have a representative of Utah Manufacturers Association?

MR. NELSON: I am Frank Nelson, Secretary of the Council of the Utah Manufacturers Association. We have no statement to make.

MR. THATCHER: Thank you, Mr. Nelson. Mr. Bishop, were you designated to make a statement for the University?

MR. BISHOP: Yes.

MR. THATCHER: Would you care to do that at this time?

MR. BISHOP: Yes.

MR. THATCHER: This is Professor Alvin Bishop, Professor of Civil Engineering at Utah State University.

MR. BISHOP: I am A. A. Bishop, Professor of Civil Engineering at Utah State University.

MR. BISHOP: Dean Peterson has authorized me to indicate that we at Utah State are very much interested in the water pollution problems of the Bear River and that basically we are against sin, that is, pollution, and that we pledge the support of the University in helping to solve the problems, especially the Department of Civil Engineering who, in their irrigation and water development program, are interested in full utilization of the water resources of this State which includes the purification, reuse of industrial and municipal supplies, as well as full use of the virgin flows of all of the rivers.

The Wildlife Department member of the Utah Water Pollution Control Board, Doctor Sigler, is basically interested in keeping the water pure for fish and wildlife, and that department will cooperate, of course, as will the Engineering Department, in helping solve the problems of water pollution of the Bear River.

MR. THATCHER: Thank you, Professor Bishop.

Is there a representative here from Brigham Young University?

(No response.)

MR. THATCHER: Apparently not. Is the Utah Canners Association represented? I think Mr. Harvey Cahill was on our list. Is Mr. Cahill or a representative here?

(No response.)

MR. THATCHER: Mr. John Ward, a consulting engineer of Salt Lake City, who has done some contract work for the Water Pollution Control Board, is present. Would you care to make any statement, Mr. Ward?

MR. WARD: No, I have no statement to make.

MR. THATCHER: Thank you, Mr. Ward. Utah Water Users Association. I see two people here. Mr. Jensen.

MR. JENSEN: My name is Tom Jensen and I am Secretary-Manager and Mr. L. B. Caine the President of our Association is here.

All we want to say here is that the Water Users of the State of Utah, which represent the grass-roots irrigators, whether that is where the plowing starts or not, but we appreciate being extended the invitation to be here and offer our cooperation with you and your organization in matters of protecting the State's waters against pollution.

MR. THATCHER: Thank you, Mr. Jensen. Mr. Caine, do you have a statement you care to make?

MR. CAINE: No.

MR. THATCHER: Is Dr. Gaufin present? I saw him earlier this morning. Do you have a statement, Dr. Gaufin?

DR. GAUFIN: I have some information that has been brought out that I could give if it is desirable.

MR. THATCHER: All right. If you would care to do that at this time, Dr. Gaufin.

DR. GAUFIN: For the record my name is Arden R. Gaufin of the Department of Zoology, University of Utah.

In 1954, John Wilson, Basin Biologist for the Public Health Service in Portland, Oregon, and several other people undertook a study of the Bear River and some of its tributaries to determine the effect of pollution on our aquatic life. We conducted such studies in August and November of 1954 and in March and June of 1955. In addition to the chemical and physical data which have already been given you by Mr. Alexander, we collected large numbers of aquatic invertebrates and did some work to determine the effect of pollution on fish.

We found that the Cub River below Franklin had no game fish in it at all and the invertebrate collections indicated heavy pollution. Worm Creek revealed much the same conditions below Preston.

In the Malad River in its lower stream, tests indicated the effect of organic pollution as well as siltation. We did not have an opportunity to do very extensive work on the Bear River, but northwest of Preston the aquatic life indicated no gross pollution by inert or organic material. Some organic material is probably beneficial to the aquatic life in the stream. The lower extent of the Bear did indicate the effects of heavy pollution on aquatic life.

MR. THATCHER: Thank you very much, Dr. Gaufin.

Is the Board of County Commissioners of Box Elder County represented?

MR. PETERSON: I have a report on that.

MR. THATCHER: Thank you. Is that true also of the Board of County Commissioners of Cache County?

MR. PETERSON: Yes.

MR. THATCHER: Is the State of Utah Municipal League represented?

(No response.)

MR. THATCHER: Apparently not.

Utah State Department of Agriculture: I saw some of those people here this morning. I don't know whether we have them now or not. State Department of Agriculture?

(No response.)

MR. THATCHER: Farm Bureau Federation?

MR. SMOOT: My name is A. V. Smoot, President of the State Farm Bureau. I have no statement at this time. We are certainly interested in this problem and we wish to cooperate in every way with this conference.

MR. THATCHER: Thank you, Mr. Smoot.

Utah Association of County Officials? I don't see Dr. Soffe and Dr. Porter. Have they come back? The members of the State Board of Health, which is a separate organization from the Water Pollution Control Board and which works right together with them were invited individually to attend here, and I wasn't sure whether they would have a statement. Apparently they are not here. We will get to them later.

Rocky Mountain Trout Growers Association.

VOICE: The president was unable to be present.

MR. THATCHER: The president of that association is unable to be present. He is attending a conference in Milwaukee.

Mr. Peterson, would you care to present your statement?

MR. PETERSON: Yes.

MR. THATCHER: Mr. Merrill Peterson, Chairman of the Sewer and Sanitation Committee of the Cache Chamber of Commerce.

MR. PETERSON: My name is Merrill Peterson. I am Chairman of the Sewer and Sanitation Committee of the Cache Chamber of Commerce.

We have handled this water pollution program for the Chamber. If I act a little bit drunk, you will have to excuse it. I'm trying to get used to a hearing aid and bi-focals at the same time, and the only good that I've found out of them so far is when I get in the dog house at home I can shut it off and get along okay.

The first thing we did after the committee was set up by the Chamber of Commerce was to make an investigation and see to just what extent pollution had taken over on the Bear River here in Cache County. We were rather amazed at the condition. We decided the best way to bring the story before the public was to take a picture, a motion picture, of it. We employed Max Brunson of the studio here in town to make a picture for us. We entitled it Beautiful Cache Valley, and we have shown it to upwards of 7,000 people by actual count; most of the civic groups of Cache County and Box Elder County have seen our picture.

The thing that we found is that without exception all of your industries along the river are dumping their industrial wastes directly into the stream, with only one exception. This one exception is Brigham City. They have a very modern up-to-date sewage plant down there for the treatment of their sewage. It's a secondary plant.

There are two other primary plants on the drainage. One of them is at Evanston, as you have heard before. The other is at Preston. Preston's plant is inadequate in size. A couple years ago when one of the other committee members and I went up to check it, they didn't take the trouble to run the solids through the tank. They just dumped them into Worm Creek. So from the standpoint of pollution abatement we figured it was of no value at all.

There is one other serious source of water pollution on the Bear River through dumping grounds. Most of them we checked went directly into our streams, as in the case of Logan, or into the low areas or other areas that during your heavy runoff period drained directly into our streams.

After we checked over Cache County, we decided to extend our survey onto the river drainage as a whole. We found that conditions existed the same in the entire stretch of the Bear River and its tributaries as existed in Cache County.

Your industries all along the river dump their industrial wastes into the streams. Your towns all dump their untreated sewage into the streams and in many, many cases out of Cache County along the river your dumping ground is the same as they are in our own county, either directly in the stream or on the bank of streams where the streams get the full benefit of the solution.

At the present time there are two towns along the river, Malad and Grace, that are contemplating a sewer system and a sewage treatment system, and they are going to have a bond vote in the not-too-distant future. As it is today, we are getting from between ten to fifteen million gallons of untreated sewage dumped in our stream a day besides the industrial wastes and the run-off from dumping grounds. It doesn't take a person trained in bacteriology or sanitation engineering to know that a condition of that kind can't continue to exist.

These waters are used for irrigation, for industry, for recreation, and for other purposes. It seems to be the habit in this particular area that after water has received its initial use we haven't figured that it needed to be conserved any longer and nothing has been done to protect it from pollution any longer.

We figure that it is an interstate problem for the reason, as has been pointed out already, there are several interstate areas where trouble exists. You are getting an increase in population, and as your population increases, this problem is going to become increasingly greater. You are going to have an increase in industries. There is big talk right now of tremendous industrial development in the Soda Springs and Montpelier areas. Already three phosphate and chemical works are up in that area, and more big industries are surveying the advisability of moving into that area.

Another thing, Bear Lake is certainly an interstate problem. It is intersected right in the center by your Utah and Idaho line, and if something isn't done in the immediate future in that area, we are ruined as far as a recreational area is concerned.

Also, as has been pointed out, your Bear River Bird Refuge is set up right at the mouth of Bear River, and this problem is unique in this respect. It is probably the only problem area in the entire United States where the pollution of several different states are left with one state. Utah is the recipient of all the pollution that is dumped in the Bear River the full length of the river.

We realize that there are a lot of election problems, that there are other problems that will come up, but we would like to

strongly advise that the U. S. Public Health Service take the problem on an interstate basis. Water is probably the most valuable resource that we have in this area. It is a limiting factor in the development of the country and the population we can have. I would like to read to you the specific groups that are behind this request that the U. S. Public Health Service take the entire program and the completion of the program over so that the correct measures will be taken to keep the river drainage clean after it is once cleaned up.

The Cache Chamber of Commerce, Bear River Valley Chamber of Commerce, Associated Civic Groups of Northern Utah, Tremonton Junior Chamber of Commerce, Logan Junior Chamber of Commerce, Hyrum Junior Chamber of Commerce, Cache Mayors Organization, Tremonton City Commission, Brigham City Commission, Box Elder County Commission, Cache County Commission, Logan Rotary Club, Brigham City Rotary Club, Logan Lions Club, Paradise Lions Club, Richmond and Trenton Lions Clubs, Tremonton Lions Club, Tremonton Kiwanis Club, Logan Wild Life Federation, Box Elder School District, Logan Business and Professional Women, Soroptomist Club of Logan, Tremonton Womens and Civic League, American Legion Post No. 47, Logan City Council of Parent-Teachers Association, Cache County Farmers Union, Box Elder Order of Eagles Auxiliary 2919, Hyrum Land Improvement Committee, and Richmond City Commission.

Those groups are behind the immediate request that we have made for the U. S. Public Health Service to handle the entire program.

If it is okay with the Chair, we would like to get George Preston to say a few words on the legal aspect of the matter from our angle.

MR. THATCHER: Would you want to continue your statement after that?

MR. PETERSON: No.

MR. STEIN: Does that complete your statement?

MR. PETERSON: Yes.

MR. STEIN: That will be all right.

MR. THATCHER: I would suggest that we might wait and have you answer questions or make comments while you are at the mike.

MR. PETERSON: Yes.

MR. STEIN: Mr. Long, do you have any questions?

MR. LONG: No.

MR. STEIN: Mr. Garthe?

MR. GARTHE: No.

MR. STEIN: Mr. Peterson, I would like to ask you a question. I have been out to the Cache Valley twice now, once at a preliminary meeting which we held with you folks, and it seems to me that you have quite a lot of recreational potential in this area. Would you say that the recreational potential is being detrimentally affected by the pollution of the stream in the Bear River?

MR. PETERSON: Very much so. This area used to have good fishing. You have heard the comment many times probably that when it has been mentioned that many of our fish have been killed, that there are nothing but trash fish. Well, this condition didn't always exist. The only reason it exists now is because of the fact that your water is so polluted that nothing but trash fish can live in them. I remember when we had some good bass fishing in the bottom land in the valley. At the present time a lot of your areas in the bottom of the valley are so highly polluted that they won't even support trash fish. I'm sure that nobody likes to hunt ducks in water that is untreated sewage. Not only that, but it isn't safe for boating or any other type of recreation.

On top of that, we water our livestock with this water. Certainly we have a much higher incidence of animal disease in the entire Bear River area than we should have. It is only comparatively recently when an inspector of one of the meat packing plants made the statement that the livers of only about three out of every ten critters that they took through the meat plant were fit for human consumption because of the fact that there was so much disease among them. Certainly this is at least partially due to the fact that they are being watered on polluted water.

MR. STEIN: Thank you. I would like to make one statement, to comment on one aspect of your statement, on the role of the Public Health Service. This goes back to a few other statements that we have had.

One, I think there are several ways of looking at the pollution problem. Everybody is giving lip service to anti-pollution. Everyone is against sin. The other aspect is, and I think this was brought out too, that pollution control or water quality management

is an essential part of the development of an area, particularly of an area such as this which is a relatively arid region. This particular Cache Valley in this section of the country may be uniquely blessed, but generally the western area of the country is a fairly arid region. We can have all the impoundments we wish, all the multiple purpose projects we wish, but unless we maintain the quality of water it isn't enough to be sure that an adequate quantity of water is there. In other words, we must have adequate water quality management. Now, I think this raises us from, or rather it shifts the stage of it from just being against pollution and against sin to doing something about it, and that is the difficult thing we are faced with.

The job of the Public Health Service is to do something about it. Now, in our role in this field we are in a rather delicate and intricate field of Federal-State relationships. We are working within a constitutional framework of the United States and constitutional framework of the states, and the role of the Public Health Service is pretty definitely spelled out in the statutes. I would like to repeat what I said in the beginning. The law recognizes that primary rights and responsibilities in the field of water pollution control rests with the states. On the other hand, in the field of interstate pollution, the Public Health Service does have certain responsibilities, when we are involved in an interstate pollution problem such as this. This conference is the initial step and we hope we won't have to go beyond the conference state, the initial step.

We, by no means, have any intention of neglecting our duties to see that the solution of this problem is carried forward to its conclusion, but in doing that, our job, and it is directly stated in the law, is to encourage the state agencies. That is what we intend to do at all stages of our work, and that is what we are going to do now. Now, I don't think that is an equivocal statement. I think, if you have examined our operations in the past in other areas of the country, it will be very evident how this works. I don't think this is a unique situation of Federal-State relationship.

In other words, we are going to give the State and local authorities every opportunity to arrive at an equitable solution of the problem under their own law, give them every possible assistance to enable them to do that. If, however, it doesn't happen, then of course, there are other steps in the law, and under the law we are obliged, and I say that advisedly, we are obliged to take those steps, and I think that would put this in perspective.

I would like to turn the time over to Mr. Thatcher again.

MR. THATCHER: Did I understand you to say, Mr. Peterson, that Mr. Preston would like to make a statement on the legal aspect of this?

MR. PETERSON: Yes.

MR. THATCHER: All right, Mr. Preston.

MR. PRESTON: My name is George Preston. I have been serving on the Cache Chamber of Commerce Committee with Bud Peterson who just concluded his remarks. I have not prepared any speech. As I said before to the Chairman, I am just talking from the cuff, and will continue to do so.

I have always been of the philosophy that the way to have a good time at a meeting like this is to start a fight. So, if I can do that deliberately, I'll try and accomplish my purpose. With the permission of the Chairman, I would like to ask the representatives from the States of Idaho and Wyoming--. May I ask a question?

MR. STEIN: We generally do not permit that. You can ask me to ask the question.

MR. PRESTON: Okay. May it please the Chairman, and, by the way, I'm glad to hear you mention the Constitution of the United States, because I had thought that the Supreme Court had done away with it, but I'm glad at least one Department in Washington still recognizes it. Now, will you please ask the gentleman from Wyoming, the State which seems to be doing its share in these proceedings, whether or not they have a law comparable to the one in Utah which provides for a description of pollution and provides not only for a cease and desist order by the State body, but also for criminal prosecution for violation.

MR. STEIN: I'll be glad to. Do you wish to answer that question?

MR. LONG: The Advisory Council advises entirely in Wyoming, and when we find anybody that opposes our advice, we turn it over to the Health Department and they do the prosecuting.

MR. PRESTON: You seem to be getting a good job done even though you are admitting passing the buck a good deal.

Will you ask the representative of the State of Idaho--.

MR. STEIN: (Interposing) We do not have a representative from the State of Idaho here.

MR. PRESTON: Will you ask the gentleman who spoke for the State of Idaho that question?

MR. STEIN: Does Mr. Burkhardt wish to answer that question? If not, it's all right. Let me try to answer that.

MR. PRESTON: All right.

MR. STEIN: As part of the function of the Public Health Service, we have digested and analyzed State laws for a long period.

I think we regard the Idaho State law as what we call a non-comprehensive State law; as far as we know, the Idaho Health Department has jurisdiction over waste coming from municipalities. The Idaho Health Department does not have jurisdiction to abate industrial wastes unless they create a public health hazard.

Thus, the Idaho Health Department, and I think all the State agencies, can only make recommendations to the industries. In Idaho, also, I think the Fish and Game authorities can take action to prevent conditions which are inimical to fish life.

The Public Health Service, in developing a suggested State water pollution control act in promoting State legislation, has set up certain criteria for legislation we regard as a comprehensive act. That provides generally for a single State agency to have authority to take action to control pollution of all waste in all waters of the State. That obtains in Utah. It does not obtain in Idaho.

MR. PRESTON: In view of that statement, Mr. Chairman, I shall confine my few remarks to putting the officials of the State on the pan. As stated in the beginning, I think there is a deficiency in law enforcement.

If you spread those curtains up there, you gentlemen will have an illustration. You gaze upon the second most beautiful residential district in Logan City. Down over the hill right here, and this is apropos to the meeting in question, Mr. Chairman, the first class residential district in Logan City is without any sewers whatsoever.

Now, that might surprise you, my classification of one and two won't be agreed on, but the question of sanitation and the eradication of pollution of the streams has such a political bent that it is intricately tied up with the question with which you gentlemen are dealing here today.

You will notice, and this is going to hurt somebody's feelings, but you will have to take it or else rebut my presumption, - you will notice the Utah Power and Light Company is not here. In fact, I don't think they are so much involved. They are a great benefactor, but the sugar companies, through one sugar company, presented themselves today to this audience with the same argument I have heard twice before. The Utah-Idaho Sugar Company has no representative here whatsoever. Most of the other stream poluters have no representation here whatsoever. Now, gentlemen, I have slept in the sugar beet fields of Cache Valley for a long time and also in the sugar cane fields in the South Pacific too long a time, and I am not convinced that the sugar beet economy of this State, if we are going to have to pay for it in the pollution of the streams here, is worth it.

Now, I'm part banker as well as lawyer, and my compatriots in the banking business do not agree with me, but that makes very little difference to me. I repeat it again, I do not believe the sugar beet economy of this State is worth the pollution of the streams which they are located on, and I can't state it any plainer than that.

(Some Applause.)

MR. STEIN: We would appreciate---.

MR. PRESTON: (Interposing) Thanks, but I wish you were a thousand people.

MR. STEIN: We would appreciate not having any demonstration from the audience.

MR. PRESTON: Now, let's see what we could do. Logan City, whether you realize it or not, Mr. Chairman, I don't know how much you know about the politics out here, has opposed this question of sewage down there in the other part of Logan that I am talking about for years, and years, and years; and the district up here that I point to now comprises the greatest antagonistic vote to the bonds that some gentleman mentioned from this platform because they have all got the sewer. The way that the city commission accomplished that defeat, I repeat, the way they accomplished that defeat, so that you will get it, was by tying a municipal sewer drainage system into a sewage treatment plant. Just like Congress, they hook everything onto one bill and you've got to take it all or nothing, and naturally the people that had the sewer didn't want to pay their interest for the ones that are below the hill who didn't have the sewer.

Now, I say this is a touchy political problem. I'll remind you that every prosecutor in the State of Utah has a right to prosecute for water pollution, and water pollution is defined by the State act, and I believe Mr. Thatcher will agree with me that it means any kind of a change in the natural composition of the water - chemically, organically, or otherwise. Am I right? I believe I am.

I know of not one single prosecution that has been brought in Cache County, and I don't think in other counties since Mr. Peterson started to show this colored film, and if you haven't seen it, you might send for it for some of your communities. I think he can show you where there are actual cases here within seven miles of this microphone where slaughter houses are actually draining raw blood right into the Little Bear River, and that isn't good.

I can't, but I would like to ask this audience if there is one single person here who is opposed to cleaning up the pollution on the Bear River channel. I would like to ask you that, but the Chairman won't let me.

MR. STEIN: That is a rhetorical question that really doesn't have to be answered.

MR. PRESTON: I would like the record to show though, when it goes back to Washington, that there is nobody that has voiced themselves as opposed to it, but there has been, I say, much apathy in this matter.

I don't think, gentlemen, as a legal proposition we should expect a Government to do everything for us. I don't like that paternal system of our Government. It has gone too far now. We ought to help since we've got an agency which is willing to put up part of their dollars, even though they were ours originally, but bring it back to us. We ought to be able to help them do the job when we have adequate laws to do it ourselves. We could clean up a lot of this situation right here in Cache County by our officers who hold office. We could do a whole lot of it. We can do it either by cease and desist orders which come from the Board, or we can do it through the office of the County Attorney, but so far we haven't done anything, and it is much, I say, gentlemen, it is much like, I believe it was Mark Twain who said, "Everybody talks about the weather, but nobody does anything about it."

Did you know that Hyrum Dam, the recreation resort out here has been condemned for use as swimming because of the contamination?

Have you been advised of that, Mr. Alexander? Oh, I can't ask questions. Pardon me. My legal profession wants me to put everybody on the witness stand for cross examination. How I would love it!

I say, in conclusion, that this Committee came to the conclusion a long time ago, and these matters have been directed to the attention of the State Board, that we ought to be touching a few of these people with a criminal prosecution here and there. That will do a great amount to clean some of the situation up. We've got four or five different means of helping this situation. Let's not rely on the Government to do it all. Let's do a little bit of ours locally. That goes for mayors, county commissioners, and prosecutors. Thank you.

MR. STEIN: Thank you. I might say the Chairman found your questions very delightful and pertinent. However, at the risk of being stuffy, if we permitted you to ask questions, we would have to permit everyone else to ask questions, and past experience has shown that once we follow that course we become permanent residents; we can't terminate the meeting.

MR. PRESTON: I'll forgive you.

MR. STEIN: Let's see if there are any comments or questions. Mr. Long?

MR. LONG: I heartily agree with Mr. Preston in cleaning up the pollution by industry. We are abating it in Wyoming.

MR. STEIN: Mr. Thatcher.

MR. THATCHER: No.

MR. STEIN: Mr. Garthe.

MR. GARTHE: I have no comments to make.

MR. THATCHER: I notice that one member of the Board of Health is now in the audience and Dr. Soffe, who also is a Water Pollution Control Board member, is here. I wonder, would it be appropriate to ask the Board of Health members if they would care to make a statement now? Dr. Soffe or Mr. Hurst.

MR. HURST: I have no statement to make at the present time. I am very pleased to be in attendance and am sorry I have no statement

MR. THATCHER: Thank you, Mr. Hurst. Mr. Chairman, I believe that completes the list of invitees that we intended to call on.

MR. STEIN: Thank you, Mr. Thatcher. Now, we will ask if anyone from Idaho, any industry, municipality, or other person is here who wishes to make a statement? If there is, will they so indicate and we will permit them to take the rostrum.

MR. JOHNSON: I am Hyrum Johnson from Preston. I have no statement.

MR. STEIN: Thank you sir. Anyone else from Idaho?

(No response.)

MR. STEIN: Now, I don't think there is anyone from Wyoming, but if there is we shall appreciate a statement.

MR. GRADERT: I am Emil Gradert. I was asked by Mr. Lloyd, Wyoming State Engineer, to represent him here tody, but we have no statement to make. Mr. Long has presented Wyoming's statement.

MR. STEIN: Thank you, sir.

Would you mind repeating your name and group again?

MR. GRADERT: Emil C. Gradert, Superintendent, Water District Number Four, Wyoming.

MR. STEIN: Mr. Peterson.

MR. PETERSON: I would like to clarify my request there when I said we would like the U. S. Health Department to take over. We certainly have no objection to the Utah Water Pollution Board working on the problem and helping, but we would like to see the U. S. Public Health Service handle it because we don't believe ourselves that the States of Wyoming and Idaho will cooperate in such a fashion that we will get the end result we want within the foreseeable future. That is the way we feel about it.

MR. STEIN: Thank you.

I think now we are ready for a general discussion of the problem by the conferees here, and after that we will have a summary of the Conference.

Now, from the material developed, it would appear that there are two areas in question. One, the area of Wyoming and Utah. This problem near Evanston, if any, seems to be relatively minor. And, as was indicated here; the Wyoming authorities seem to be fully familiar with the situation in that area and have kept us completely advised as to the type and nature of waste going into the Bear River at Evanston, and have indicated that progress in that area has been made. Of course, it very well may be that there are some problems there during periods of very low flows. What may be in order there is a short investigation during those critical periods to see whether there is a problem and to keep that under surveillance.

In the other area, however, we do have a much more serious problem and that deals with the Bear River along the Idaho-Utah border as the river flows from Idaho into Utah. Now, this problem presents a very interesting question in Federal-State relations; in what the State and Federal Governments are authorized to do under the law.

As was pointed out before, under the law, the only pollution the Federal Government has jurisdiction over, as far as abatement is concerned, is that pollution which is of interstate waters. I think it is pretty clear that the Bear River is interstate water. That is defined as any river which flows across or forms a part of the boundaries of two or more states. The only pollution we can abate is pollution endangering the health or welfare of persons in the States other than that in which the pollution originates. In other words, if you examine the course of the Bear River, the sources of pollution in Utah and the effects of that pollution in Utah are beyond the enforcement jurisdiction of the Federal Government. The only jurisdiction we may have deals with sources in Idaho which may affect the people in Utah, and if there is any trouble around the Evanston border, I believe the sources in Wyoming which might possibly have an effect on the folks in Utah and that has not been demonstrated.

There are three major probable sources of pollution in Idaho near the Utah border. One, the municipality of Preston, Idaho. Two, the Franklin Sugar Company at Whitney, Idaho; and three, the California Packing Company at Franklin, Idaho. In addition to these, we have a possible developing trouble in the Soda Springs area due to the industrial development there. We know the Monsanto Chemical Company is in there now. Several other industrial establishments either have plans to go in there or are going in. There is no evidence at the present time that the waste in the amounts put out under present operating procedure really are causing substantial damages at the border. However, if that industrial development increases and develops, it bears watching.

Now, we come to the next problem. In order for the Federal Government action to mean anything, or any action to mean anything, it must help the people in Utah. There is no point in abating pollution in Idaho only, and I just put this theoretically. I don't want this to be construed that we have made a judgment. Let's suppose, hypothetically, that all the sources of pollution, the three major ones I have mentioned in Idaho, are stopped tomorrow and stopped permanently, that is, the sugar company wastes, the packing company wastes, and the municipal wastes of Idaho. How much better would the water be for use in Utah with the sources in Utah continuing to put their wastes into the stream?

Now, obviously, it would not be equitable, nor would it be useful for us to get those sources cleaned up when we wouldn't be improving the uses in another State. Therefore, as we view the problem, I think the States of Utah and Wyoming agree that this has to be a joint action. That is, to get Utah cleaned up and then the Idaho sources can clean up in a commensurate way. Now, under Utah law, the determination has to be made as to what quality of water you want in the stream in order to be able to determine the kind of remedial measures which will be necessary. Fortunately, in Utah we have such a mechanism where the people and the State officials can come to a judgment on what kind of water they will want to have in their stream. This will involve taking into consideration all the interests we have heard today, and the State coming up with a judgment on that. At this point, I would like to call upon the States if they wish to say anything to see if we are on the right track or if we want to modify this discussion. Mr. Thatcher.

MR. THATCHER: I think I have nothing to add, Mr. Stein. I concur generally in your conclusions. We feel that the studies, as indicated previously, will be essential before the Utah Board will have at hand sufficient information to move ahead with their classification program, and I have no further comment on the general conclusions you have drawn.

MR. STEIN: Mr. Long?

MR. LONG: I am hoping that from this meeting that Utah and Idaho will get together and try and clean up the waters, and I can guarantee Wyoming will do its share.

MR. STEIN: Thank you, Mr. Long.

Now, the next point. It has been indicated that there is pollution of interstate waters which would be subject to abatement under the Federal Act.

Secondly, this pollution in fact is endangering the health and welfare of people in a State other than the State in which it originates.

I want to emphasize a principle of law in this field which is established in all States that have considered the question and within the Federal Courts, and that is that contributors to pollution are what is called jointly and severally liable. That means that if you are a substantial contributor to such pollution and your pollution and your discharge in combination with other peoples' is causing the damage, you are liable as a group. Therefore, we would consider the sources in Idaho and those in Utah as coming within this definition.

Now, the next problem we have is the nature of the State laws. I think that has been indicated too. The letter of the law, as we see it, is that Idaho law does not permit an official State agency to take action except recommendatory action against an industry. In Utah, the situation is somewhat different.

The reason for the delays in Utah, as indicated by Mr. Thatcher and Mr. Alexander and the record, is that the State does not have the personnel to engage in the studies and gather the data in order to present a classification to their Board and to the people of this area for discussion.

Now, before we go further with that, I would like to check and see if that is a true statement?

MR. THATCHER: As far as Utah is concerned.

MR. LONG: We haven't any comment.

MR. STEIN: Under the Federal law, we are authorized to provide technical aid and assistance to the States in dealing with an interstate problem, and having been called into this by the State agency of Utah, we are prepared to take all the steps we can to achieve an equitable solution to the problem; to help and encourage the States to do the job, and to give them every opportunity to do it under State and local law. Therefore, I think the Public Health Service would be disposed to provide assistance, technical assistance in one way or another to the State of Utah for the development of material which would enable them to arrive at a water classification.

However, it is like everything else, the Federal money is not ours to spend; everything has a string. I don't think we are authorized to just spend money for a study and have a study go on the shelf.

In other words, if the Federal Government would provide aid and assistance in this matter, then there would have to be some indication from the conferees that this study would result in action. We are not here prepared to certainly tell the State before they have analyzed the data and come to their conclusion and had the public hearing, as they must under the law, as to what that action should be. However, action must be forthcoming to justify our participation in a study. Now, I think we should get from Mr. Thatcher an indication of how long he would estimate it would take him to gather such data, what action could be expected, and when we could expect it after the data is obtained. Mr. Thatcher.

MR. THATCHER: Well, when you ask how long it might take to accumulate this information, I presume we can assume that we will get the technical aid essential for this.

MR. STEIN: Yes.

MR. THATCHER: From outside sources?

MR. STEIN: Yes.

MR. THATCHER: Presumably the Public Health Service?

MR. STEIN: Yes.

MR. THATCHER: It's hard to be specific and especially to make promises for the future, but it occurs to me that we would need about ayear to round out our information so that we will have all seasonal variations covered. Then I presume after the information has been accumulated during the twelve-months study, that something in the range of three months would be necessary for analysis of this and development of a classification procedure under the terms of the Utah Act. This is just an estimate, but I think it is something we can shoot for.

MR. STEIN: Very well. Thank you.

I think perhaps that can provide a basis for agreement, if it would be acceptable to the other conferees. Do you have any comments on that, Mr. Long?

MR. LONG: No.

MR. STEIN: Mr. Garthe.

MR. GARTHE: I think that is entirely agreeable and a logical program for the solution of this problem.

MR. STEIN: Well, if that is the case, we have a problem here, under the Federal Law, of putting ourselves in position so we can follow through with this proceeding. I would suggest that if it is acceptable to the conferees, we call this the first session of the conference, and after we have this field work done and this classification agreed to by the Utah Board, that we convene a second session of the conference on the call of the Chairman, and that we then, at the second session, come up with definitive recommendations as to what to expect of the stream and establish a time schedule for specific remedial action to be taken by the contributors to pollution.

Presumably, the time schedule of the conference would be directed against the Idaho pollution sources, but we would expect the Utah authorities to have an almost identical or commensurate time schedule for the source of pollution on this side of the border.

If that is agreeable, we can go into a summary of this conference. This summary is open to amendment or changes by the conferees and will be made available to you folks here.

One, I think the conferees have agreed, and it seems to be pretty obvious, that the Bear River is an interstate stream within the meaning of the Federal Act.

Two, I think the conferees have agreed that the Bear River, as it flows back and forth from Wyoming to Utah in the Evanston area, may present a potential pollution problem. If so, it is a minor problem. That problem would need a short study. I would suggest, if the conferees agree, that this short study be done either by the State of Wyoming or by them in conjunction with the Public Health Service, and at the second session of the conference, a report of conditions in the Evanston area during periods of low flow be made a part of the conference proceedings; if there is no interstate pollution situation that should be reported on. If a pollution situation which merits attention is found or should develop, it is suggested that the Wyoming Council develop a program of remedial action.

In the Bear River area, as it comes from Idaho to Utah, we have a rather severe interstate pollution area. As was brought out, the Bear River above Soda Springs is a relatively clean stream. As it goes down, it picks up industrial and municipal wastes. These industrial and municipal wastes come into the Bear River on both sides of the line, first in Idaho, and then in Utah.

The pollution caused by these municipal and industrial wastes has caused deterioration of water quality used for irrigation and stock watering with a potential health hazard in such waters. It has also caused deterioration of water quality so as to interfere with aquatic life and with wild life. It has caused deterioration of water quality so as to interfere with the use of the Cache River Basin area around Bear River as a recreational area. It has caused deterioration of water quality so as to make the river unsuitable as a source of potential water supply, and this may be one of the uses that the Utah Board may wish to consider in the classification work that they are going to do during the next year, that is, to determine whether the Bear River should be kept suitable as a source of potential water supply. Certainly at the present time, it doesn't meet the standards of Utah for a surface water supply. It's a question of whether the folks of Utah or the official agencies want to write that off or want to consider it as a source of potential water supply. We will leave that for determination and recommendation at the next session of this conference.

The conferees also agree that the State of Utah with the assistance and advice of the Public Health Service will gather information and data which will permit the State of Utah to make a classification of these waters, that this data gathering or this information gathering process take no longer than one year, and I might add here that if the Public Health Service comes in, we will try to also cover as many Idaho sources as possible.

Now, I would suggest that, and I might put this out as being the view of the conferees, that the details of the resources, financial arrangements and type of data be left to the technical staffs of Utah and the Public Health Service, and that we invite the State of Idaho to participate in these discussions and studies if they wish, and that these arrangements be worked out as soon as possible so that the studies can be gotten under way, and that within three months after the completion of the work by this technical task force, the Utah Water Pollution Control Authority complete a classification of the stream and when that classification is completed we reconvene in a second session of the conference. This second session of the conference will include that classification and a time schedule for remedial work for sources in both States, and that Utah, of course, will present the time schedule for the sources in Utah.

That will start right from now. That is, it will be a year and three months from now to have the second session of the conference, at least a year and three months from now.

Now, we also get, and this is something we try to put in all the conferences, that the Public Health Service will get in touch with the States and prepare progress reports not less than - and we can set the months' interval - what do you want? Three, four, or six months' intervals.

MR. THATCHER: Well, three or six months.

MR. STEIN: Let's compromise it and have progress reports at four month intervals prepared by the Public Health Service so we can make a determination as to whether this program is moving along. This progress report will be available to the States, and you can call upon the States for such information.

Now, is there anything else to add to the summary? Mr. Thatcher.

MR. THATCHER: No.

MR. STEIN: Mr. Long.

MR. LONG: No.

MR. STEIN: I want to repeat one more thing. The summary of this conference will be made available to your State agencies, so will a verbatim transcript of the conference proceedings. Those persons wishing to receive copies of the summary or the transcript should get that through their State agencies which will distribute them.

Now, I think that concludes the summary.

Is there anyone in the room who would like to make any statement whatsoever concerning this problem?

MR. PRESTON: I have a comment to make.

MR. STEIN: Mr. Preston.

MR. PRESTON: I will if nobody else wants to. I think, Mr. Chairman, what you say is all very well. I don't think it is going to get at our problems as fast as many of us want to do it.

Now, specifically this, you outline a system of gathering data which will take a year before the report is made. While I realize, Mr. Chairman, that that isn't your business so far as Utah is concerned, but Utah's problem is ours and ours alone. Now, I don't know a thing about analyzing water, but I do know something about prosecution. I

have been a prosecutor for 20 years. Nobody has to spend more than five minutes, if the Republicans hadn't kicked me out of office and I were still prosecutor, I could issue a complaint now and not a year from now, but now, on the information that we have already conveyed to the State Department.

There is no question but what the legal definition of pollution and contamination will fit the acts of at least ten places of pollution right here in Cache County. I'm so positive I'm right about that, that it's beyond the peradventure of doubt. There isn't any shadow of doubt that every sugar factory is polluting the waters of the State, and therefore they are guilty of a State offense. Therefore, the question is what is going to be the policy of the officials of the State, not a study by Mr. Thatcher, but politically speaking, the State Administration of the State of Utah is going to determine whether to prosecute these people or issue a cease and desist order, or are they going to let them alone. If they are going to let them alone, that means categorically that we are not going to clean up Bear River. Now, there is something for the Administration of this State to determine, and they have got to make a determination of that before they do anything else effectively, either through a governmental agency or otherwise, and it seems to me there is a question. That is why I said there are political angles to this thing.

You can't, you Federal agencies can't solve the problems of Bear River until the State of Utah gets down and does something definite in a political and legal manner, and that's it. They are going to have to take some action.

Mr. Chairman, if you are the Chairman, the sugar beet processors of this area are polluting the Bear River.

MR. STEIN: Mr. Preston, first of all, let me assure you that I am the Chairman.

MR. PRESTON: Well, you spoke of someone else as Mr. Chairman.

MR. STEIN: Secondly, I think if you will examine the record and the summary, we said not longer than a year. Now, as far as the Federal Government is concerned, we would be delighted if the State of Utah could say that this would be done in less than a year. I think also after the study is completed, three months is the time for the establishment of the classification, but that should also be not longer than three months. Faster results would be fine.

Now, I think again what we have here is a situation where, and we are not getting into the internal affairs of the State of Utah, we have a question of Federal jurisdiction. As I have outlined to you, our jurisdiction is limited, limited in this particular area that you are interested in, to those sources in Idaho, and under the clean hands doctrine from our point of view, it would be very difficult for us to move in and attempt to get corrective measures taken in Idaho when so many sources of pollution are down here in Utah.

Now, we have gotten the statements, and analyzing the situation here, it appears that the thing that is holding back Utah now, and they do have, we think, an excellent law on the books, the thing that is holding Utah back is the lack of technical help to get this material that they feel, that Utah feels it needs. If that is what it is going to take to meet a State situation over which we do not have enforcement jurisdiction, we are prepared to go as far as law will allow and extend to Utah an area of technical and financial aid and assistance to help them get this material together.

MR. PRESTON: I'm glad to hear you say that.

MR. STEIN: Any further comments or questions?

(No response.)

MR. STEIN: If not, we will declare this conference adjourned, and I want to thank you all for coming and participating, and for your patience. Thank you very much.

(Whereupon, at 2:22 p.m., the conference adjourned.)

APPENDIX A

ATTENDANCE ROSTER

Aleck Alexander Sr. Sanitary Engineer	U. S. Public Health Service, DHEW, Region VIII, Denver, Colorado
K. E. Bailey	Amalgamated Sugar Company Lewiston, Utah
David B. Barlow Member	Utah Water Pollution Control Board Bountiful, Utah
Jay R. Bingham Executive Director	Utah Water and Power Board Salt Lake City, Utah
A. A. Bishop Professor, Civil Engineering	Utah State University Logan, Utah
Grant K. Borg Member	Utah Water Pollution Control Board Salt Lake City, Utah
Doren B. Boyce Member	Utah Water Pollution Control Board Ogden, Utah
Howard L. Burkhardt Public Health Engineer	Idaho Department of Public Health Boise, Idaho
L. B. Caine	Utah Water Users Association North Logan, Utah
Ernest Chappell County Commissioner	Summit County Coalville, Utah
Moses Christensen Rancher - Idaho and Utah	
Orson A. Christensen Member	Utah Water and Power Board Brigham, Utah
J. G. Connor Chemist	U. S. Geological Survey Salt Lake City, Utah
R. H. Cottrell	Amalgamated Sugar Company Ogden, Utah
R. E. Crowell Forest Supervisor	Cache National Forest Logan, Utah
H. A. Dixon Congressman	Ogden, Utah

R. G. Duke Civil Engineer	Union Pacific Railroad Company Salt Lake City, Utah
Donald K. Dunham	U. S. Fish and Wildlife Service Salt Lake City, Utah
Harry A. Elcock	Amalgamated Sugar Company Ogden, Utah
Arion Erekson	Utah Water Pollution Control Board Murray, Utah
Robert R. Evans Reporter	The Salt Lake Tribune Logan, Utah
E. J. Fjelsted	Weber Basin Water Conservation District Ogden, Utah
Robert S. Gaddie General Chemist	Utah-Idaho Sugar Company Salt Lake City, Utah
E. C. Garthe Regional Engineer	U. S. Public Health Service, DHEW, Region VIII, Denver, Colorado
Franke Garbe Intermountain Superintendent	Hunt Foods Company Tremonton, Utah
A. R. Gaufin Associate Professor of Zoology	University of Utah Salt Lake City, Utah
M. M. Gilkey Mining Engineer	U. S. Bureau of Mines Denver, Colorado
Emil C. Gradert Representative	Wyoming State Engineer's Office Fort Bridger, Wyoming
W. C. Hageman	California Packing Corporation Ogden, Utah
Robert H. Hillen	U. S. Fish and Wildlife Service Salt Lake City, Utah
Howard Hurst Member	Utah Board of Health Salt Lake City, Utah
F. Gerald Irvine	Chamber of Commerce and Utah Power & Light Company, Salt Lake City, Utah
Dale Jensen	Idaho Fish and Game Department Preston, Idaho

John W. Jensen	U. S. Bureau of Reclamation Logan, Utah
Thomas W. Jensen	Utah Water Users Association Salt Lake City, Utah
Wallace Jibson	U. S. Geological Survey Logan, Utah
Hyrum G. Johnson Extension Agent	Preston Chamber of Commerce Preston, Idaho
Lewis W. Jones Bacteriologist	Utah State University Logan, Utah
Ariel M. Jorgensen Commissioner	State Department of Agriculture Salt Lake City, Utah
R. E. Laughlin	California Packing Corporation Ogden, Utah
Orville L. Lee Member	Utah Water and Power Board Paradise, Utah
M. P. Leonard President	Association Civic Clubs, North Utah Farmington, Utah
David W. Loertscher County Commissioner	Summit County Park City, Utah
Frank Long Member	Wyoming Stream Pollution Control Advisory Council, Buffalo, Wyoming
Francis T. Mayo	Utah State Engineer's Office Salt Lake City, Utah
Kaarlo W. Nasi Assistant Regional Engineer	U. S. Public Health Service, DHEW, Region VIII, Denver, Colorado
Frank V. Nelson	Utah Manufacturers Association Salt Lake City, Utah
John N. Newhold Assistant Professor	Utah State University Logan, Utah
Chris Nielsen	Deseret News (Salt Lake City) Logan, Utah
Philip W. Pack	U. S. Bureau of Reclamation Logan, Utah

Merrill Peterson Chairman	Water Pollution Control Committee, Chamber of Commerce, Logan, Utah
Ross H. Plant, Mayor	Richmond, Utah
R. O. Porter, M.D. Chairman	Utah State Board of Health Logan, Utah
George Preston	Cache Chamber of Commerce Logan, Utah
J. Byron Rausten	Cache County Commissioners Clarkston, Utah
Frank N. Rawlings	Amalgamated Sugar Company Ogden, Utah
Albert F. Regenthal	State Department of Fish and Game Salt Lake City, Utah
Reed S. Roberts District Sanitarian	Utah State Department of Health Logan, Utah
Miles P. Romney Member	Utah Water Pollution Control Board Salt Lake City, Utah
Russell Satterthwaite	Rich County Commissioners Garden City, Utah
Richard K. Schwartz Sanitarian	Logan City Health Department Logan, Utah
W. F. Sigler Member	Utah Water Pollution Control Board Utah State University, Logan, Utah
Lynn A. Skabelund	Cache Chamber of Commerce Logan, Utah
Clarence M. Skoubye Hydrologist	John Ward (Consulting Engineer) Sandy, Utah
Dean R. Smith Manager	Cache Chamber of Commerce Logan, Utah
Donald A. Smith	State Department of Fish & Game Salt Lake City, Utah
A. V. Smoot President	Utah State Farm Bureau; Bear River Commission, Corinne, Utah

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George W. Soffe, M. D. Interim Director of Public Health	Utah State Department of Health Salt Lake City, Utah
Murray Stein, Chief Interstate Enforcement Program	Water Supply-Water Pollution Control Program, U. S. Public Health Service, DHEW, Washington, D. C.
Calvin K. Sudweeks Sanitary Engineer	Water Pollution Control Division Utah State Department of Health Salt Lake City, Utah
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Lynn M. Thatcher Executive Secretary	Utah Water Pollution Control Board Salt Lake City, Utah
Jerry Tuttle	Utah State Engineer's Office Salt Lake City, Utah
John A. Ward	Consulting Engineer, Salt Lake City, Utah
Joseph B. White	White's Trout Farm, Paradise, Utah
V. T. Wilson	U. S. Fish & Wildlife Service Brigham, Utah
Newel Winget	Commissioner, Logan, Utah
Welby W. Young President	American Dairy Association of Utah Heber, Utah

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